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NATIONAL AVIATION FACILITIES EXPERIMENTAL CENTER ATL--ETC F/6 1/2
LOS ANGELES INTERNATIONAL AIRPORT DATA PACKAGE NUMBER 7, AIRPOR--ETC(U)

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DATE:

December 19, 1979

NATIONAL AVIATION FACILITIES EXPERIMENTAL CENTER

ANA-220

ATLANTIC CITY, NEW JERSEY

08405

SUBJECT

IN REPLY REFER TO:

Los Angeles Simulation Model Results for Stage 1 Experiments

FROM:

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A09

Program Manager, ANA-220

Frank Jones



EVEL III

Enclosed is data package 7 for review by the Task Force members. The Stage 1 experiments have been re-worked since the last meeting in November and reflect the latest comments of the group.

Attachment A is a list of the Stage 1 and Stage 2 experiments.

The Stage 1 experiments (attachment B) are arranged in sets to illustrate various comparisons requested by the Task Force members. VRF and IFR weather conditions have been separated along with each configuration (westerly, easterly, and night time operations). Each experiment contains a description of the objective, the runway configuration, the related experiments and a summary of the results. A link node diagram is included to illustrate the airfield changes noted in the experiment.

The results of the experiments are presented in the following sets:

Set 1 - Experiments 1, 7, 7A, 7B, 11, and 13

Set 2 - Experiments 2, 3, 8, 8A, 8B, and 12

Set 3 - Experiments 6, 9, and 16

Set 4 - Experiments 4, 10, and 15

Set 5 - Experiments 5 and 10A

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Set 1 of the Stage 1 experiments deals with the VFR-1 weather conditions during westerly flow of traffic. The demand (aircraft schedule) follows the pattern of distributions over class of operation, arrival fixes, runways and gates observed during normal conditons for experiments 1, 7, 7A, 7B and 13. The distribution of traffic for experiment 11 was changed for departures dependent upon the projected increase due to tunnel improvements. Experiment 11 was repeated under the same demand but with the departures automatically rerouted to 24 R when a departure queue of 4 built-up on runway 25R.

Set 2 of the Stage 1 experiments deals with the IFR-1 and IFR-2 weather conditions during westerly flow of traffic. Initially, the demand (aircraft schedule) followed the VFR conditions for runway use. This demand had to be modified because of the excessive arrival delays encountered on 25L. All arriving aircraft heading for gate areas 1, 2, 3 and 4 were assigned runway 24R shifting the demand to the north complex. Gate areas 1, 2, 3 and 4 were selected because of their location on the airfield. Gate 4 was the closest one (in the south complex) to runway 24R. This modified demand method was used for experiments 2, 3, 8, 8A and 8B. The distribution of traffic for experiment 12 was changed for departures dependent upon the projected increase in demand for use of 25R after tunnel construction. Experiment 12 was repeated under the same demand but with the departures automatically rerouted to 24L when a departure queue of 4 built-up on runway 25R.

Set 3 of the Stage 1 experiments deals with the VFR-1 weather conditions during easterly flow of traffic. Initially, the demand followed the mirror image of runway use for the westerly flow. The arrival demand was modified because of delays encountered on 7R. This modified demand was used for experiments 6, 9 and 16.

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Set 4 of the Stage 1 experiments deals with the VFR weather conditions during night time operation. The original aircraft schedule was reworked to permit arrivals on 6R only and departures on 24L (heavys and north bound traffic only) and on 25R (all others). No arrivals have been assigned to 7L because the model, at the present time, can not direct arrivals when the runway is free of a departure queue.

Set 5 of the Stage 1 experiments deals with the IFR weather condition during night time operation.

JOHN R. VANDERVEER

Enclosures

ANA-220: JR Vanderveer: hmm; x2535:12/17/79



DECEMBER 1979 240550 DW

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#### EXPERIMENT NO. 1

# Objective:

To obtain baseline delay estimates for the following runway configuration in VFR-1 for 1973 demand.

# ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

24R, 24L, 25R, 25L

24R, 24L, 25R, 25L

# Related Comparison Experiments:

Calibration was performed using this configuration ("A")

Experiment 7 uses configuration "A" with 1982 demand.

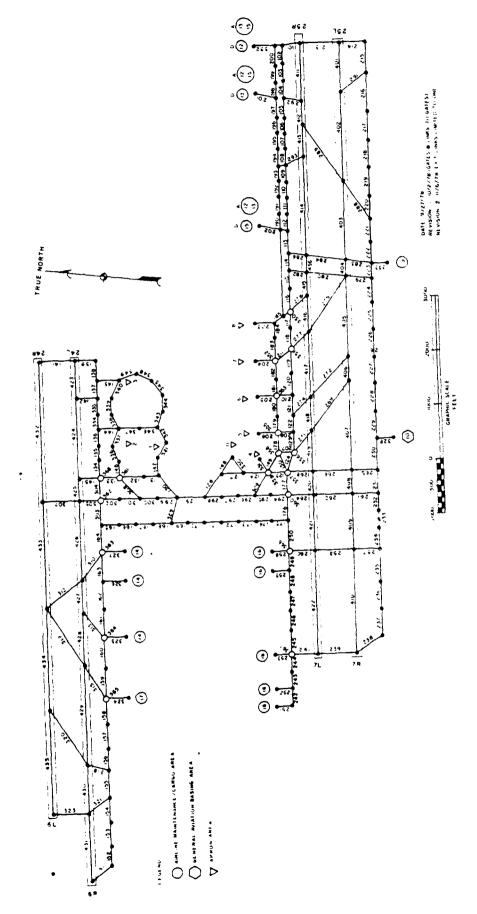


Figure 1 LAX LINK NODE DIAGRAM (PRESENT)

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TABLE 3

SUMMARY OF RESULTS

# EXPERIMENT NO. 1

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	TRAVEL			TA IJO		14	101	40	13.1	20	14.1	3/6		10.8	٩	بہ	a de	DEF.	UELAY	,	5.5	0.71	5.01		2 -	12	
	ICE TR	TIME	.H23			40	2 4	4	44	4.5	2.6	40		+ 7	GRAND	TOTAL	na v			0.7	5 2	07	7-	1.5	13	=	7 6
	AVEKAGE	17	OT HS3	IX HBI		2.6	4.07		10.3	5.4	14.5	10.7	0				3		<del>-</del> -	0	3	62	1.0	0.0	0.1	0.3	0.5
			DIFF.			-7.0	1.9-	4.6	41.0	-32	-9.6	78.7	1	*: -			TAX1		T,	7	1	70	50	03	0.5	0 /	50
			DE- MAND			48	19	5.2	48	C,	65	2	000	,			RWY .	CROSS	6	٠ ا		000	00	0 5	00	00	00
				FLOW	- 1	0/0	52.9	26 6	420	400	77.4	29.2	454				ALL	RWY	0	4	1	2,0	3/3	3.2	7.5		437
		护	25L			0.0	000	4	63	13.1	127	(6.2)	5,6	49			RWY -	25L	15,	0.4	1,000	. [	1		70		1
	1000	L'ELTA	ZSR		- 1	0	29	22.4	86	7	2.3	18.7	192	վջ	- 1	The Co.	KWY	25R	60	6.3	H	1	2	`1	70	4	7
		F	24L		1,1	7	27.7		7		200	77	رن د کم	DEPA		2 10	I M I	777	1.5	5,5	2.2	10	1	1000		9 6	4
RATES		27.10			107	+	1	47	7	70	0:4	2	000			AMA	1 M	- L	70	78	9.7	000	10	100	100	4	
PLOW	•	MEU			077		7	977	1 7	+	1		2.9	-	1	TAXT	_	1.	1	000	0.1	0.1	0.1	10	1/0	0,0	1
AVERAGE		Ι,	Q.		20	-	+	+	7	1.	$\dagger$	1	7			KWY .	U	+	+	1	0.0	1.0	0.1	0.7	10	0.1	
Y		AVC	-1		30.05	3	27.70	-	1	1.	1	+	4.1			ALL	_	T	+	+	-	7	, ,	7.7	9	5	
		$\vdash$			10.0	0 0/	╀-	10	١,	1	1 7	+-	41.6 44	AYS		$\vdash$	25L   H	╀		+	7	7 87	7	9.6	7-7	+	
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	H				2	8-5	9-10	10-11	11-12	12-13	3-14	4-15			7.1元			7-8	8-9	9-10	1-0-	:	1 :	7	14-14		

#### EXPERIMENT NO. 7 (7A)(7B)

#### Objective:

To obtain baseline delay estimates for the following runway configurations in VFR 1 for 1982 demand. (+5%)(+15%)

To obtain delay estimates for 1982 with no improvements to the airport.

#### ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

24R, 24L, 25R, 25L

24R, 24L, 25R, 25L

# Related Comparison Experiments:

Experiment 11 is similar with an improved ATC system scenario (1982) and the 1982 near-term improvements.

Prior Experiment 1 is similar for the 1978 demand.

TABLE 4

SUMMARY OF RESULTS

EXPERIMENT NO. Z

NEBLVAIS		- 1					AVERA	AVERAGE PLOW	RATES							AVEDA	100	
RWY	- }			ARRIV	AIS						DEP	A D/P110 E				AVER	15. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	VEL
24L 25R 25L FLOW	ž	<u>-</u> چ	RWY	RWY	KUX	AVC	DE	ni Eu	215	N. I.O.		A C C C				Ţ	ME	
10   10   10   10   10   10   10   10	ì		,				7 .	7 7 7 7 7	I M I	KMX	KWY	<u></u>	AVC.	DE-	DIFF.			0.
	7		757	25R	25L	TOTAL	NA NO		24R	74T	25R	25L	TOTAL	MAND				
1.0   1.0						AOT -							F.LOW					
1.0   H-0   10   410   45   10   10   10   10   10   10   10   1	1,4	0	37	13		1	1											
10   15   10   14   14   14   10   11   12   12   12   12   12   12	4 .	1	1,	k	4	17:0	3	- 1	2.0	16.0	150	2	410	AB	- 7	70	1	
10   13   15   15   15   15   15   15   15	4	7	0.1	17.15	0	740	4	101-	1.1	0 4/	1/2	12	10,0		3	77	#	74
3.0   13.2   25.3   5.5   5.8   -1.5   5.9   21.6   5.9   5.0   51.4   46   1.5   1.5   4.6   1.5	Þ	_	0.	15.0	0 0/	`	A	١.	1	1		1	12.5	12	-5.7	1015	44	133
3.0   225   215   570   61   51   510   611   61   62   62   62   62   62   6	=	<i>j</i>	0	727	100	Ί,	1	ᆈ.	2	2.4	18.7	7:9	1.8	2	+4.1	16.7	4	8.7
10   114   23.0   414   44   33   310   16.1   14.5   15.5   45.1   55   12.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0   4.6   15.0   13.0	1 =	}	2	100	ルル		7	- [ ·		27.6	15.9	0	404	48	+2+	100	4.6	/ \ /
S	' [t	+	1	74	4,5		1		~	7.97	14.7	5.5	45.1	75	(19-	12.0	4/	100
Sign   18.3   23.6   57.9   57   12.5   14.6   15.2   57   15.6   4.5   10.6   4.5     ARRIVAL DELAYS	11,2	+	7,0		_	17.4	4		87	262	16.5	136	13	65	ıί		A S.	17.
ARRIVAL DELAYS  AVERAGE  RHY RHY RHY RHY RHY RHY RHY RHY RHY RH	٩.	-	9		_	_1	40		5.3	24.1		15.2	150	ż	10	1	1	
ANERTVAL DELAYS  AVERAGE  RUY  RUY  RUY  RUY  RUY  RUY  RUY  RU	7	07	3	18.5	23.6	151.9	S,	/ / -	5.1	125	24	1 .					7	4
AVERACE  RWY  RWY  RWY  RWY  RWY  RWY  RWY  RW	1		AR	RIVAL	DELAYS						APTIBE	200	•	F	144	10.5	4.4	Ž
RWY         RWY         RWY         ALL         RWY         TAXI-         RWY         RWY </td <td></td> <td></td> <td>1</td> <td>VERAG</td> <td>का</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>THE PARTY</td> <td>- 1</td> <td></td> <td></td> <td></td> <td></td> <td>CRAN</td> <td>Q</td>			1	VERAG	का						THE PARTY	- 1					CRAN	Q
24L 25R 25L RWY CROSS IN 24R 24L 25R 25L RWY CROSS OUT CONG. DELAY 0.0 1.5 0.0	莱	-	RWY	RWY	AMA	11.4	Acid	2000		<	VEICNOE						TOTA	<u>ا</u> ـ
0.0     1.5     0.7     0.6     0.2     0.4     0.4     0.4     1.6     0.0     0.0     0.0     1.5       0.0     1.2     1.0     0.0     0.1     0.0     0.1     0.0     1.5     0.0     1.5     0.0     1.5       0.0     1.2     1.0     0.1     0.1     2.7     11.3     1.2     6.4     8.7     0.0     1.5     0.0     1.7       0.0     1.2     1.3     0.1     0.0     2.3     11.3     1.4     2.4     8.7     0.0     1.5     0.0     1.7       0.0     1.5     1.4     0.1     0.1     0.0     2.3     1.4     2.4     2.6     0.0     1.4     0.0     1.7       0.0     1.0     1.0     0.1     0.1     0.1     1.4     2.1     2.4     0.0     1.4     0.0     1.7       0.0     1.0     1.0     0.1     0.1     0.0     1.4     2.1     2.4     0.0     1.4     0.0     1.4       0.0     1.0     1.0     0.1     0.0     1.9     0.0     1.4     0.0     1.4     0.0     1.4     0.0     1.4       0.0     1.2     1.3     1.4     2.1	54		241	25R	251	776	I M I	I AX I	KWY	KENY	KMY	RUY	ALI.	RWY	TAYT	21.0	00.4	
0.0     1.2     1.0     2.4     3.9     3.4     1.6     1.6     0.0     1.5     0.0     1.5       0.0     1.3     1.3     0.3     0.1     2.7     1.3     1.2     6.4     8.7     0.0     1.5     2.0     1.7       0.4     3.4     0.1     0.0     2.3     8.7     2.8     4.1     5.2     0.0     1.5     0.0     1.7       2.0     1.5     1.4     0.1     0.1     1.8     1.1     1.4     2.1     4.2     0.0     1.4     0.0     1.1       2.0     1.7     1.8     1.9     0.1     1.9     <	2	-	0		1	ž.	CKUSS	Z	Z', R	74T	258	25L	KMX	CROSS	4	1 000		ULP.
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$	9	ㅓ	20	2	0.7	/.3	20	1	٠ .	1		of the second	4	000	13	00	-	
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0.0 2.0 1.5 1.2 0.1 0.0 1.9 5.7 16.4 10.8 2.0 0.0 1.0 0.1 1.5 11	4 c	+	36	الد	1	3	0	0.2	1.4	5.2	14	00	10	100	1.	0	1	7.6
2 0.0 120 1.5 1.2 0.1 0.0 0.5 1.9 5.2 .33 3.2 0.1	ء اد	$\dagger$	1,4	1	17	14	1:0	1.0	6''	100	1	1000	1	0.7	7	7.0	,	1.4
1.5 2.3 (3.3 0,1	2	1	0.0	7.0	5	7.3	0,1	0.0	1	10		45.	9	0.0	70	4.1	91/	5.7
									1		114	7	7:3	0,1	9.0	000	~ /	-

TABLE 5

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SUMMARY OF RESULTS

# EXPERIMENT NO. 7A

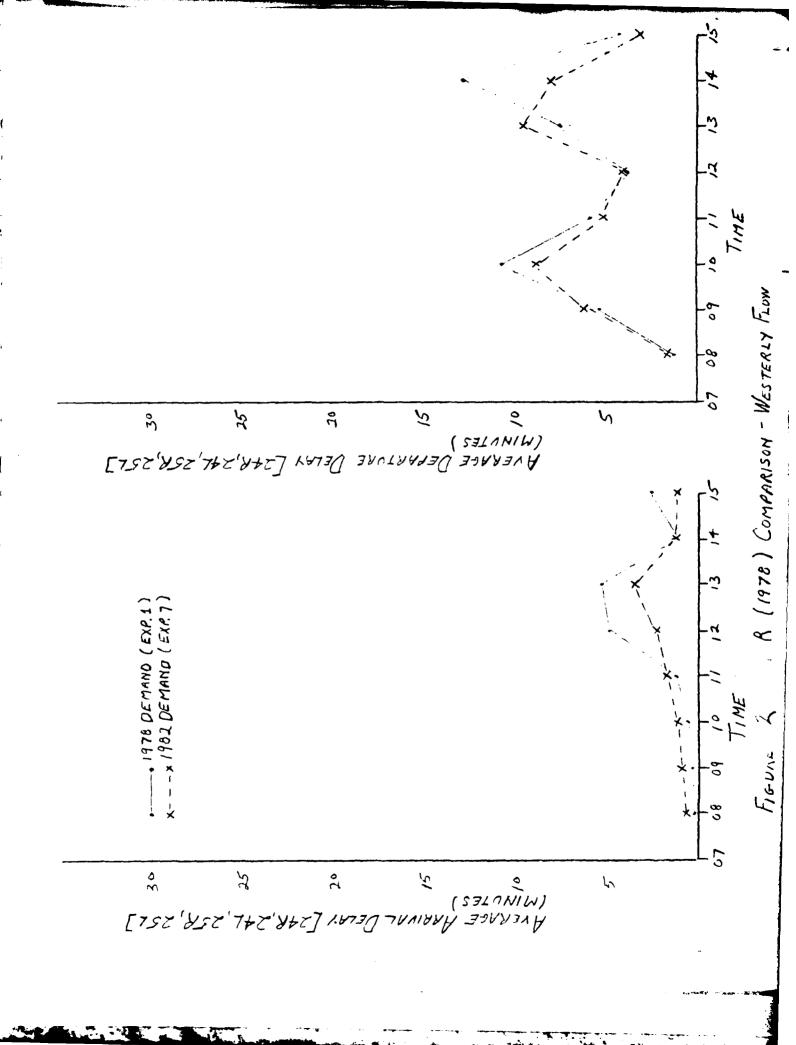
																						1.4		
WEL		01		CAT IOA	7.4	17.77	20.3	20.2	13.5	19.3	24.1	74.7	2 0	1	nr.p	DELAY	77.7	59	125		وا	13/	0	150
AVERAGE TRAVEL	TIME	_	CV.	THE	40	44	44	4.4	4.8	4.4	4.6	4.8	CRAND	TOTAL.	ARR	DELAY	-	20	25,	36	40	101	4.8	37
AVERA	TI	١.		FIX THR	10.1	0.//	12.4	13.0	4.4	19.2	13,6	13.0			RWY	CONG.	0.0	0,0	5.0	0.6	0.0	0.7	0.7	7.5
		DIFF.			6.9-	-2.5	+2.7	+3.1	-5.5	-7.8	+1.4.	+13.6			TAXI-		1'0	0.3	0.6	2,0	0.4	3.8	510	9.0
		DE-	MAND		30	29	57	50	5.5	89	27	43			RWY	CROSS	0.0	0.0	0.0	0.0	0.0	00	0.0	0.0
	S	AVG.	TOTAL	FLOW	44.0	54.5	59,2	53	49.5	50.2	58.4	5.25	S		ALL	RWY	13	2.6	71.6	0 //	6.3	11.6	13.8	/3.3
	DEPARTURES	RWY	25L		5,0	8.1	3.8	10.8	2.6	12.9	10.3	211	DELAY		RWY	25L	20	2.3	6.7	11.2	35	12.7	0.07	7//. 3
	DEP.	RWY	25R		150	18.8	120	199	15.3	14.6	021	1.22	DEPARTURE	AVERACE	RWY	25R	60	2.3	17.2	13.0	4.17	77.7	31.0	25.5
		RWY	74T		190	22.6	27.5	581	200	27.4	270	15:0	DEP	۲	RWY	24L	17	18	15.7	27	15.7	28	7	5-7
RATES		KWY	24R		5.0	43	49	7.1	9 9	5.3	4.1	6.0			RWY	24R	4.0	7	7	N N	- 1	3,0	<u>ر</u> ر	0,3
PI PI OW		DIFF.	<del>, , , , , , , , , , , , , , , , , , , </del>		+20	9.1-	-0.9	- 10	- 1.8	+0.8	+3.2	-0.7			TAXI	N I	0.1	7.0	-	ن ئ	0	0	70	1.2
AVERAGE		DE-	MAND		77	47	43	5.8	65	46	42	53			RWY	CROSS	7.0	1.0	7.0	1.0	7.0	1.0	1.0	7:0
		AVG.	TOTAL	r LOW	280	454	42.1	530	632	46.8	45.2	54.3			ALL	RWY	0,0	0	1	7	7	44	710	
	315	RWY	25L		0 27	240	13.6	27.8	22.0	223	220	263	DELAYS	<b>1</b>	RWY	25L	1	77	2		910	0	312	4
	ARRIVAIS	RWY	25R		ئر ان		19.5	102	222	681	132	011	ARRIVAL DELAYS	AVERAGE	RWY	25R	ار ا	2/2	3	1,	7.0	2,7	4	2
		RWY	74T		0	20	20	20	30	0 /	20	30	AR		RWY	74L	0			200	30	2 5		
		KWY	24R		07	20	2	13.5	2 5	10,0	30	140			RWY.	24R	1	10	10		100	10	<del></del> -	┥
<u></u>	TIME				7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15		TIKE		,	2 0	9-10	10-11		117	21-71	\$1-71	

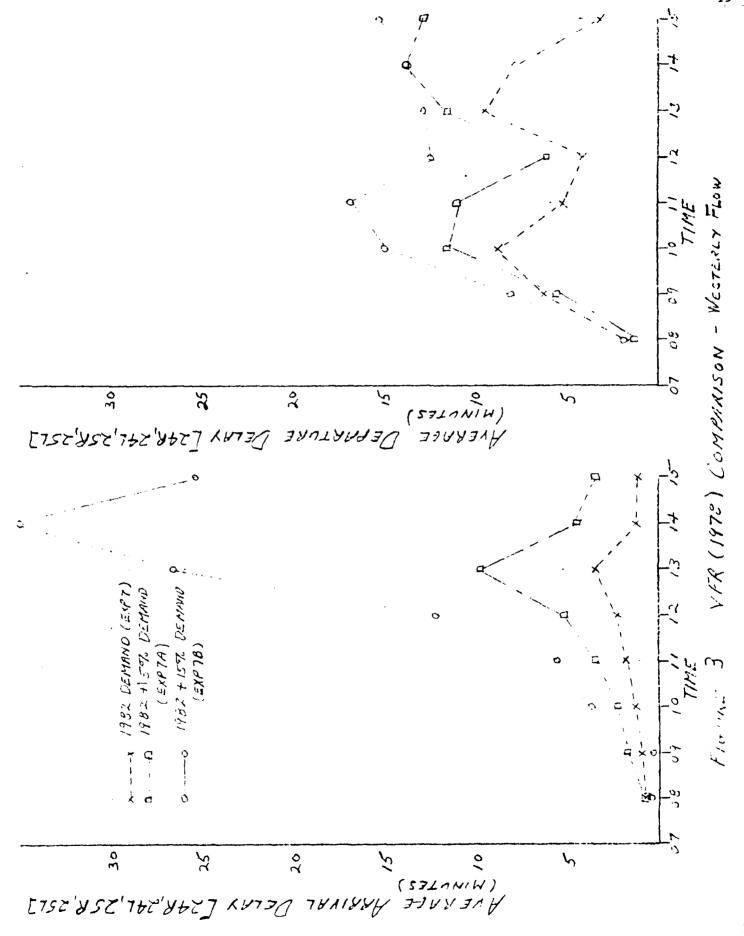
TABLE 6

SUMMARY OF RESULTS

EXPERIMENT NO. ZB

	_											<b>,</b>		_		_	_	·	τ	_	_	_	Τ-
WEL		OT	ROLL	7.7	15.4	27.6	34.5	26.7	23.5	24.6	32.6		4	DEP.	DELAY	2.2	85/	037	1.6.1	5.3	60	3	781
AVERAGE TRAVEL	띷	H. TE	THRES TO CA	4.1	4.8	4.9	4.8	4.5	4.6	5.0	2.9	CRAND	TOTAL	ARR.	DELAY	67	0.0	h'h	0.4	25,	27.2	36.4	273
AVERA	TIME	.н	FIX T THRES	9.6	1:1	134	15,0	21.9	36.3	45.4	34.9		T	RWY	CONG.	0.0	0.0	0.3	1,3	1.7	1.8	1.4	2.2
		DIFF.		-7.2	-16.3	4.8	+4.3	-2.7	-7.0	-7.7	+62			TAXI-	OUT	4.0	40	0.7	0.9	1.1	1.3	1.0	1.2
		<b></b> -	ON AM	7	Z		25	09	4	79	47			RUY	CROSS	0.0	00	00	0.0	0.0	0.0	00	0.0
		L	TOTAL P	47.8	57.7	573	59.3	57.3	67.0	54.3	53.2			77.7	RWY	1.8	7:2	15.0	16.3	12.5	12.8	13.7	15.2
	DEPARTURES	-	251	10.01	8.2	///	7 7 7 7/	14.1	11.3	8.4	12.5	DELAYS		RWY	25L	3/	73	4.5	4.4	14.2	15.6	3.6	3.11
	DEPAI	-	25R	15.2	12.3	,6.5	16.1	16.6	1991	16.5	15.7	DEPARTURE	AVERACE	RWY	25R	9:7	82	28.4	37.5	26:7	33.8	22.57	35.1
		<del> </del>	24L	19.61	129	29.6	24.1	23.6	29.8	25.4	18.0	DEPA	PY	RWY	24L	87.7	88	1.7	77.27	3.5	4.3	77	2.0
RATES		RWY	24R	3.0	8.1	5.8	6.0	~	o	40	7.0			RWY	24R	7.0	1.9	8.5	3.4	4.1	3.7	7	1.9
	_	DIFP.		41.9	2.6	-2.6	-5.3	-4.5	-3.2	-0.5	-0.1			TAXI	N.I	0.0	1,0	0.5	4.0		40	9.0	χ. -
AVERAGE PION		<del> </del>	ON AM	29	- 13	. 36	. 77	-11	e	75	0)			RWY	CROSS	770	10	- }	0.0	70	0.7	10	0:0
		_	TOTAL P	30.9	48.4	134	25.7	56.5	46 6	15.51	59.9			ALL	J	0.6	*!	2:0	13	13.3	77.7	35.7	25.4
	S	RWY	25L	149	19.8	12.8	332	23.2	œ	225	229	ELAYS		RWY	25L	1	9:1	4.0	7007	7727	23.4	2000	65.4
	ARRIVAIS	KMX	25R /	10.0	149	17.3	17.5	15.3		-	14.0	ARRIVAL DELAYS	AVERACE	KMX	25R			7	7	4	30	7	7.6
		RWY	24L	00	3.0	0.0	4.0	3.0	0	0:	0 9	ARE	¥	RWY	24L	200	3	000	510	7.0		0	7:0
		KWX	24R	0.9	7.07	ر. م	0 11	15.0	7	6.0	17.0				$\dashv$		ار اد	9:0		4	0.0	200	016
	THE	<u> </u>		7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	}	TIME		1	2-/	200	01-6	10-11	71-11	61-71	13-14	24-17





#### EXPERIMENT NO. 11

#### Objective:

To assess delays to aircraft in 1982 for the following runway configuration in VFR 1 with an improved ATC system scenario (1982) and the 1982 near-term improvements.

#### ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

24R, 24L, 25R, 25L

24R, 24L, 25R, 25L

#### Related Comparison Experiments:

Experiment 13 is identical less improvements #2 (high-speed taxiway off runway 25L) and improvements #3 (strengthening of the Sepulverda tunnel).

Prior Experiment 7 is similar without the noted improvements and a 1978 ATC system scenario.

Prior Experiment 1 is similar without the noted improvements and a 1978 demand and a 1978 ATC system scenario.

TABLE 7

SUMMARY OF RESULTS

# EXPERIMENT NO. 11

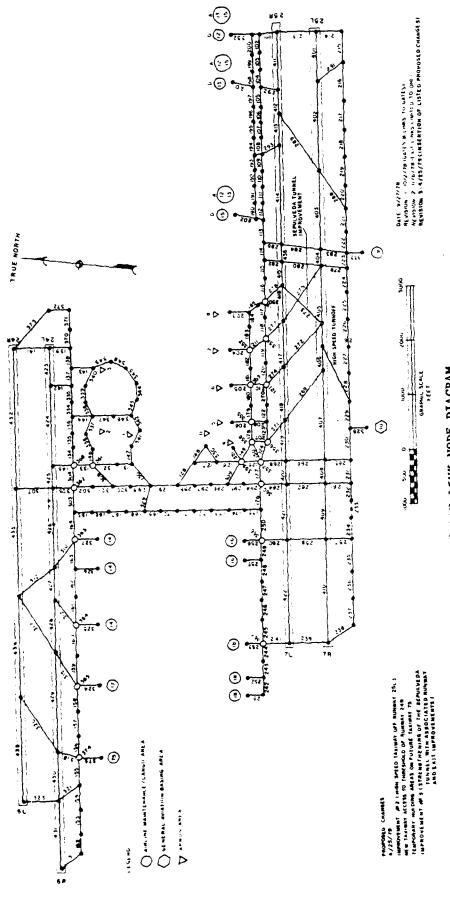
													<b>_</b> -				_	т	_		_	т-	_	_
VEL		01		CAT!	17	0 4	1.	23.2	18.1	29.0	29.4	34,3	9	J	DEP.	DELAY	-	9.0	0.02	2	1-1-2	14.7	157	717
GE TRAVEL			SY:	THE.	47		0	4	4.7	50	4,7	4.8	GRAND	TOTAL	ARR.	DELAY	-	4.1	2.0	7	6.3	20.1	4.9	3.4
AVERAGE	TIME		ISE	FIX	20	000	12.0		J. 3	6.91	12.7	12.4			RWY	CONG.	0	6.3	0.5	9.0	4,0	0.8	1.8	3.7
		DIFF.			3	2	1	5	-3.2	- 15 -	2.5	+3.6			TAXI-	OUT	00	0,6	0.3	6.0	1.7	8.0	1.5	1.4
		DE-	MAND		AA	2		48	52	55	23	14			RWY	CROSS	0 1	ر. ت	0.0	00	6.5	00	00	00
		AVG.		FLOW	0 /4	たじ	59.8	46.5	20.00	48.9	56,5	44.6			ALL	RWY	11	,	9.2	13.1	9.7	13.1	13.4	16.6
	DEPARTURES	RWY	25L		00/	17	7.0	9 //	3	-	55	6.01	DELAYS		RWY	25L	7:0	7	6.7	14.8	8.6	6.3	2.4	1.0%
	DEPA	RWY	25R		0 %	2.00	25.2	8/5/	0.8/	20.02	25.7	227	DE PARTURE	AVERACE	RWY	25R	17	13.7	18.0	18.9	15.7	27.6	23,2	27.6
		RWY	777		13.0	0.4	23.0	011	ن ١٤ ن	15.7	17.3	2.9	DEP	F	RWY	74L	77	25	7.7	12	0.7	0.5	77	02
RATES		RWY	24R		0.	0.7	17	1.4	70	7.0	40	43			RWY	24R	0	71.7	0.7	0.0	7.9	C. &	2.7	0,2
PLOW		DIFF.			6 - 4	C:1-	107	-28	647	+ 5.7	113	7.			TAX1-	N L	1:0	3	1.7	7.0	-1	0 3	-1	03
AVERAGE			MAND		25	15	1 1	53	(7	44	40	S			RWY	CROSS	1	7:53	0.1	,	1.7	1.0	0	0
				PLOW	697	633	403	502	57.3	48.7	413	47.8			ALL	RWY	2/0	14	3.7	2,0	17.7	7:7	77	ن ص
		RWY	25L		17.3	٠) ارد	201	22 !	224	_	213	18.8	ELAYS		RWY	25L							6.7	44
	ARRIVALS	RWY	25R		0.0	0 4/	(2)	13.3	19.3	13.6	100	13.0	ARRIVAL DELAYS	AVERAGE	RWY	25R	1		7 7	7.7	1,1	5.3		4.1
		RWY	74T		0 7	0/	10	7	3	0.1	20	5.0	ARI		RWY	24.L	3	1	7	+10	7:3	0	0	0.1
		RWY	24R		23	1 7	ر (	0 //	٥ ٢/	12.0	60	10.01			RWY	24R			6	0,		:-		7.0
	TIME _				7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15		TIME		0	0-0	0-0			7-11	17-73	71	14-15

TABLE 8

SUMMARY OF RESULTS

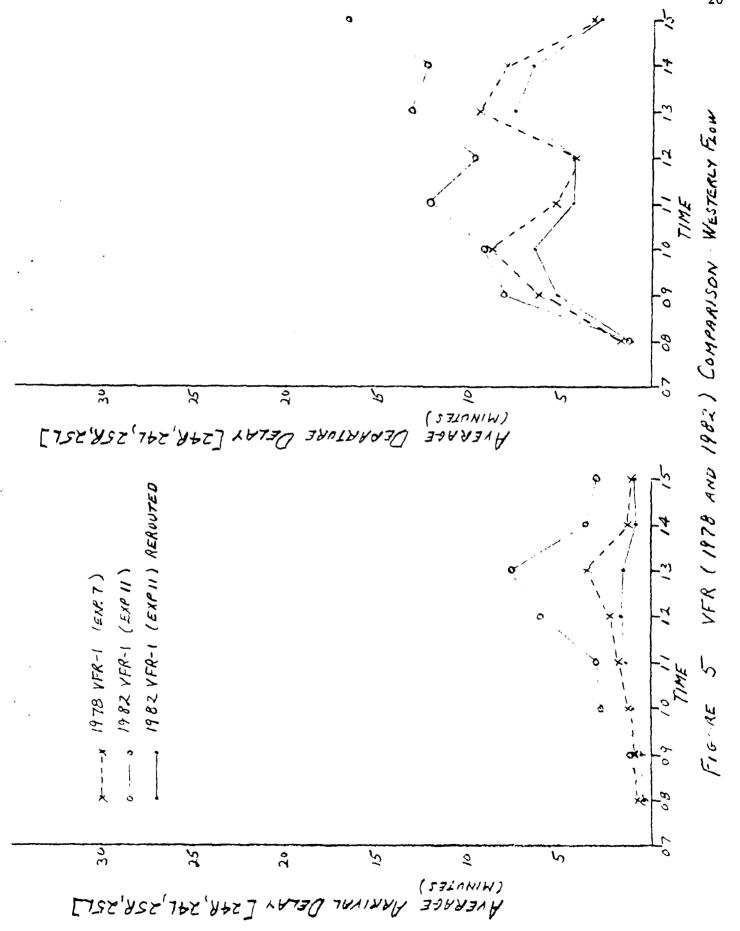
EXPERIMENT NO. 11 (RERGUTEO DEIMATON'ES TO 24K FROM 25K)

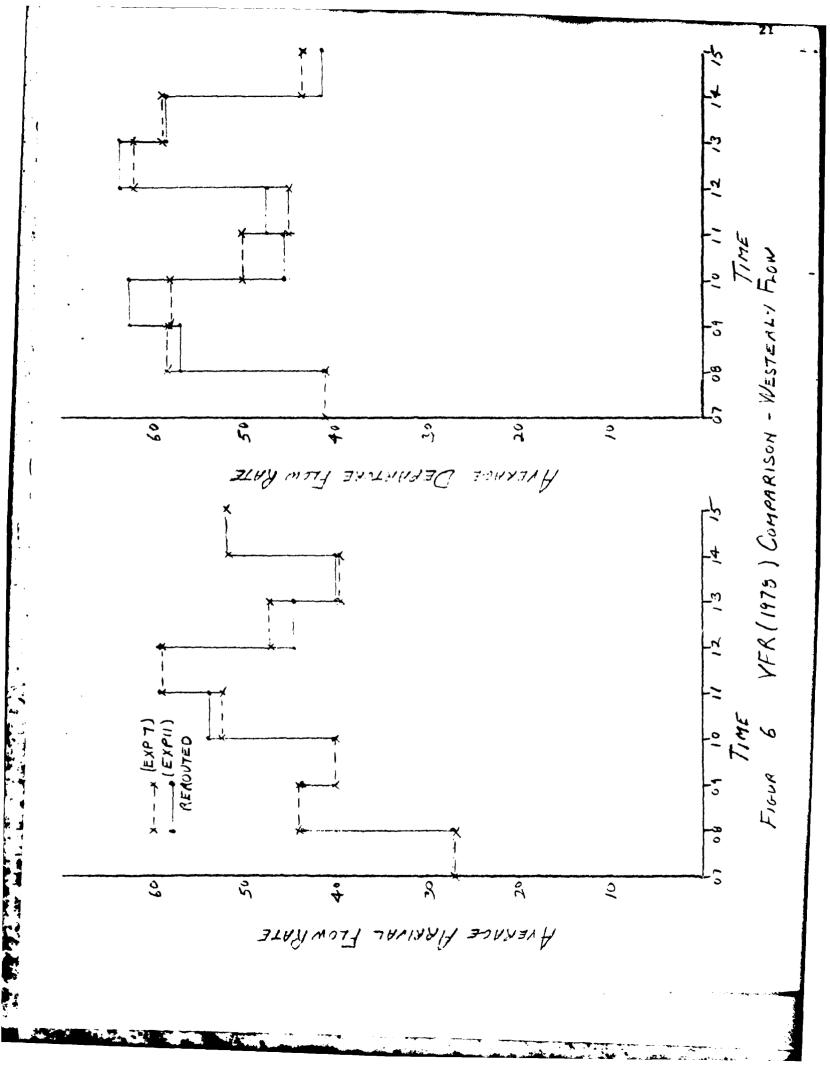
	AVERAGE TRAVEL	TIME	•н	E CV E2	THR THR TO TO ROL ROL	94 44 62	45 /2.	1776	11.0 4.6 11.2	113 4.5 10.5	10,5 4. 14.6	10.0 44 11.6	10.2 4.5 8.5	GRAND	TOTAL	DEA ARR	DELAY D	3	-	0	0.0 7.7 0.01	000	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		13 32
			DIFF.	_		-70	-	+8.7	-23	2.5-	971-	+4.7	+0.3			TANT	OUT	0	20	11	1.7	107	! 	10	). 
	' i		DE-	MAND		48	17	47	4	5.2	59	155	7			RWY	CROSS	0	0	0	0.0	0.0		000	3
.		S	AVC.	TUTAL MAND	FLOW	410	01/2	62.7	45.7	40.5	163.4		5/4	(5		ALL	RWY	0.7	15	7.9	4 3	4.3	177	15.16	17
		DEPARTURES	HWY	25L		10.0	6.01	6.6	2/1	/ //	27	124	5.6	2 DELAYS		RWY		4.	99	3.8	157	ار ایری	5,3	4.	2.7
İ		DEP	RWY	25R		09/	11.8	18.7	78 3	6:51	6.5	18.5	20.6	DEPARTURE	AVERACE	RWY		77	6.5	72	5.7	74	12.0	0.0	1.4.1
			RWY	24L		/30	14.0	23	112	09/	15-9	12.1	8 3	DEL		RWY	24L	0 2	0.0	29	7.7	108	7.7	13.3	0,2
	RATES		ጸMዝ	24R		3	77	123	67	55	15.51	10.7	1,5			RWY		0	7,	11.8	2.7	17	6.6	10.3	0.0
	E PLOW		DIFF.			15.4	1 1 -	- X	1 1+	-2.7	1110	S. S	27-			TAXI	IN		3	70	0.0	0.2	6.1	7	7.0
	AVERAGE		-3a	MAND		35	45	14	53	77	44	40	53			KWY	CROSS	70	0.0	ر. د	0.1	~; O	70	70	\ \ -
			AVG.	TOTAL MAND	P1.0W	27.0	43.9	40.1	1.4.1	57.3	75.6	40.0	250			ALL	RWY	0.5	9.0	1	4	917	1.5	0.8	0 1
		AIS	RWY	25L		18.0	11:1	1/8.1	26.0	21.4	226	20.0	ĺ	DELAYS	3	RWY	25L	~\ 0	0.0	1.5	2,2	77	7.	0	
		ARRIVAIS	RWY	25R		6,0	HO	150	14.1	12.1	10.0	10.0	13.0	ARRIVAL DELAYS	AVERAGE	K.7X	25R	7.7	90	ч.	0	9	0.9	1	
			RWY	24L		07	7,3	40	3.0	3.0	1.0	2.0	5.0	AR		KWY	24L	0	12			0 0	၁ ၁	00	00
			RWY	24R		2.0	0.0/	60	11.0	120	120	0.8	16.5			RWY	24R	0		_	+		2000	<del>}</del>	70.7
		TIME				7-8	8-9	9-10	-0- -0-	11-12	12-13	13-14	14-15		TIME	    -			6-0	21-7		7-7-	12-13	13-14	14-15



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Figure 4 LAX LINK NODE DIAGRAM (NEAR TERM IMPROVEMENTS)





#### EXPERIMENT NO. 13

# Objective:

To assess the delay impact to aircraft in 1982 for the following runway configuration in VFR 1 with an improved(1982) ATC system scenario and the 1982 near-term improvement less improvement #2 and #3.

ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

24R, 24L, 25R, 25L

24R, 24L, 25R, 25L

# Related Comparison Experiments:

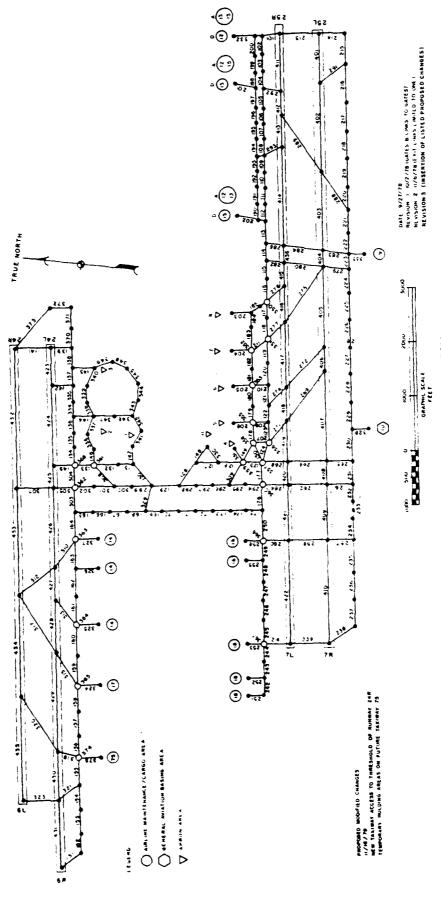
Prior Experiment 11 is similar except improvements #2 and #3 are included in run.

TABLE 9

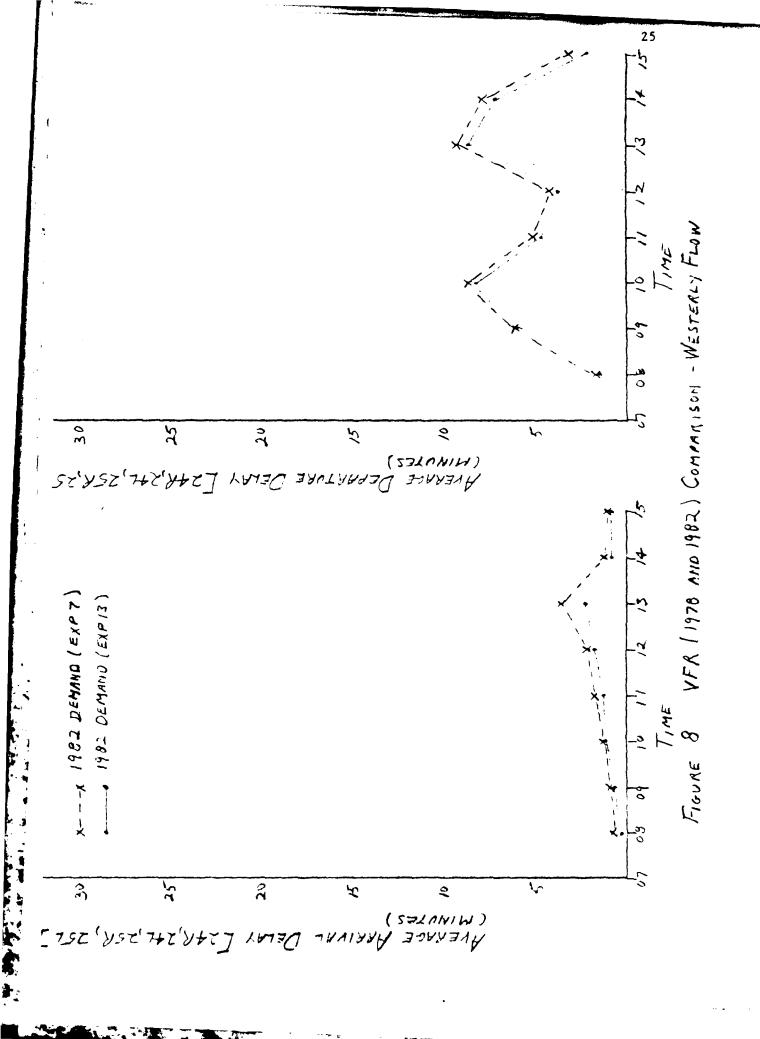
SUMMARY OF RESULTS

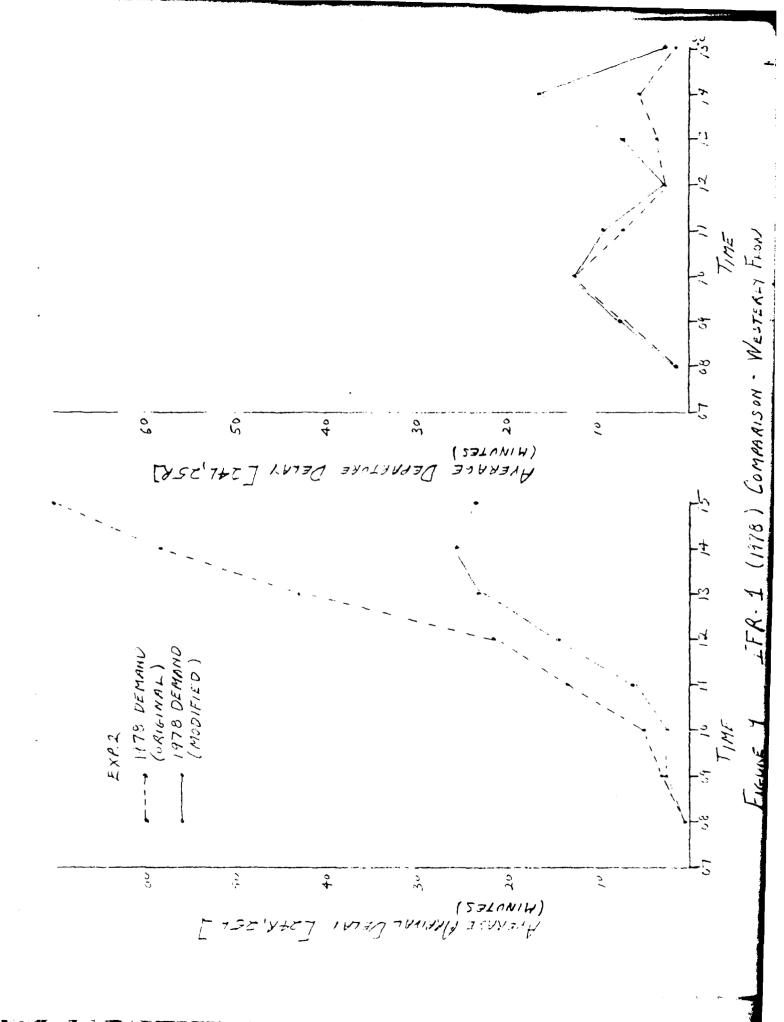
EXPERIMENT NO. 13

																		т-			-1	7	_	7
EL		0.3	ROLL ROLL	7.4	13	6:57	1.1	7,7	16.7	11.7	7.		٠		טבר.	DETAY	, ,	7	2/2	2:0	1	36/	3,0	2.5
AVERACE TRAVEL	띺	3.	THRESH TO CAI	43	4.4	12	シナ	, ,	7	40	+	CHAND	TOTAL	2	ARK.	DELAY	27	0	7	~	3.3	12.51	1.2	7-7
AVERAC	TIME	-	FIX TO	93	10,3	104	13.9	+11	(3)	1,7	7 23	6.2			<u>₩</u>	CONC.		- 1	10.	0.0	0,0	0.1	0.0	0.0
		DYFF.		-7.0	17.	17.6	4/+	1.9-	ナジュ	75.7	100	?		-{	TAXI-	OUT		7		7	20	1.3	1.7	2.5
		nr.	9	48	7	2	48	C	1	12					KWY	CROSS	0	٥,٥	0.0	0.0	) ()	0.0	0.0	0,0
		2011	٦	13/7	スパ		40.00	1017	10	6 37	1	2	3		ALL	RWY	1	9:1	\? \?	1	27	18.7	11/2	2.2
	DE DA DENDES	2 2 2	25L	2	1	10/	1-1	1- 2		1	1,	7 7	DELAY		RWY	25L	777	7	15,15	3	1, 1	2.5	3 3	3.0
	DE DA	וובנעו	25R 25R	102/	100	1.	1	')	1,0	3/3/	1	77	DEPARTURE	AVERACE	RWY	25R	14	100	ري ن	1,7	2,2	14.5	7.6	1
		-	24L	+	1:		1	100	1	1	7	1 (	DEPA	A	RWY	24L	.y .,	عارا	10.1	00	7	2.9	,	6.3
0044	KA153	-	24R	1	1	北			3	1	100	3			RWY	24R	6.7	36	2	ρ() () ()	87	1.7	07/	1
170	3		DIFF	+	1.	1		- [		ナディ	1	0,1			TAX1-	NI	0.1	0.2	0.1	6,0	0,13	0.0		1 :1
	AVERAGE	t	DE- HAND	100	7	1	+	25	1	7	90	ス			RWY	CROSS	<b>)</b>	6.1	. ,		27.0	10		.)
	V		AVG. DI TOTAL H		777	+	+	53.7	37.07	11.17	877	500			A11.		1	7.7	7.7	6.5	12	22	100	2.0
		5	본 년	$\dagger$	7	-+	1 0.97	7,6.0	07	7	20.0	24,0	ELAYS		77.0	251	0.3	10	4.1	3	100	9	3	
}		ARRIVALS	RWY R	1	7	1	5	27	2.8	13.7	9.6	0 27	<b>∢∽</b>	AVERAGE	77.0	25R	8.0	\ ^:	1.7	3	7	1		1, 1
		A	RWY R	-	0.7	107	4.0.1	30 1	0.0	/ 0 /	2	0,1	ABA		1	241.	0 0	100	2 2:	1	17		3	0.0
			RWY R	-	- - - (1	100	0.7	0 /	1.7	7	3	├	1		-	74.8 24.8		0,0	2.0	7		I	۲, اد	100
	<b>-</b>	٦	1		7-8	8-9	9-10	0-11	1-12	2-13	3-14	┼-	╁		그 됐 되		7-8	8-9	9-10	10-11		7:-1	12-13	13-14



Figrue 7 LAX LINK NODE DIAGRAM (24L BYPASS AND HOLDING AREA)





# FRECEDING FAGE BLANK-NOT FILMED

31

# LAX - STAGE 1

# EXPERIMENT NO. 3

# Objective:

To obtain baseline delay estimates for the following runway configuration in IFR 2 with 1978 demand.

ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

24R, 25L

24L, 25R

#### Related Comparison Experiments:

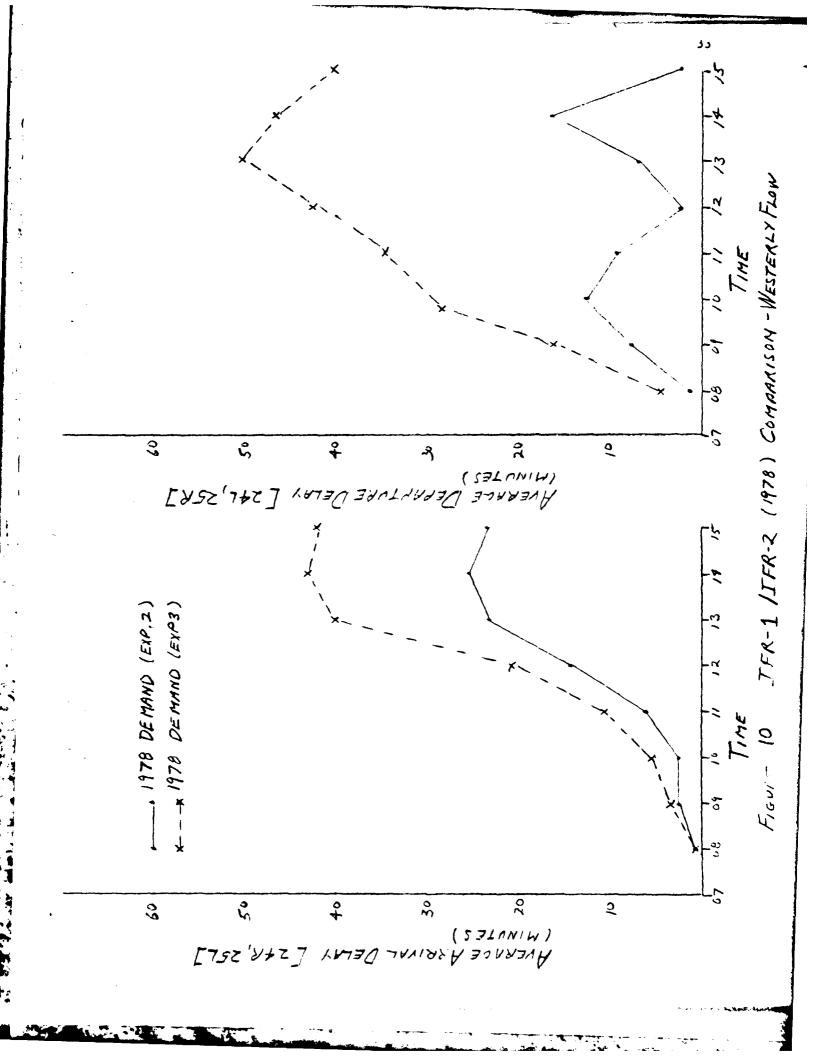
Prior Experiment 2 is similar except for IFR 1 conditions.

TABLE 13

SUMMARY OF RESULTS

EXPERIMENT NO. 3 (MOUNTIED DE MINE)

						,			<del></del>					T-	_	T	T-	Γ-	_	Γ	1	T-	
VEL		OT	CATE	() ()	25.5	45.9	26,0	13.4	22,6	2	30.6	e	ij	DEP.	DELAY	7	17.	35.1	4:00	77.9	77.0	74.9	87.3
AVERAGE TRAVEL	뛰		THRES TO GA	+ 7	4.5	125	9.1	5 5	73	7.5	16.4	CRAND	TOTAL	ARR.	DELAY	6.0	1	7.9	+11	1.42	256	45	- 16
AVE RA	TIKE		FIX T	10.0	128	14.7	20 C	31.1	47.5	12.4	51.5			RWY	CONG.	0.5	9.0	1.79	16.8	23.7	ナング	1.19	75.9
		DIFF.		27.5	-23.2	13.4	-11.4	-17.2	-5/.3	14.6	-3.6			TAXI-	our	.)	4,0	0.5	6.0	57	12	1.0	7:7
		DE- 1	MAND	48	19	2	48	23	6.7	15	39			RWY	CROSS	0 0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
		AVG. 1	TOTAL P	- J	20 S	6.50	922	5.7.0	737	36.4	35.4			ALL	RWY	1	16.5	2.3.5	7.8	14.7	50 4	469	40.3
	DEPARTURES	RVIY	25L	0.0	3	ر . ر	0.0	2.0	0.0	00	0.0	DELAYS		RWY	25L	0,0	0.0	0.0	0.0	00	00	0.0	000
	DEPAI	RWY	25R	-	100	7.87	1++	6.9	123	5.5	14.5	DEPARTURE	AVERACE	RWY	25R	7.0	12.3	25.9	525	523	72.5	65.2	29
		RWY	24L	0.57	199	200	222	11011	ر ال عرا	201	100	DEPA	AV	RWY	74L	2.0	15.7	25.8	23.6	30.7	51.9	77.4	27.2
RATES		RWY	24R	0.0	7	0)	0	0	0	00	3.0			RWY	24R	ر. ت	0	0.0	0.0	0	0.7	0 7	00
PLOW		DIFF		110	-3	-23	-/c.v	1-17-	- 5.6 -	. j/ -	1.7-			TAXI-	IN	/ ,	2.3	15.51	4.6	6	20	4.7	11.51
AVERAGE		DE- I	AL MAND	29	39	40	2,0	2	25	42	47			KWY	CROSS	7	1	ر در	03	63	20	0	4:5
*		AVG. 1	TOTAL	50.0	0 2	17.7	40.0	3 11	+ ++	410	-			ALL	RWY	7)	7	5.4	707	21.9	40.1	7	12.
	S	للا	25L	0.21	0.31	22.7	23.0	0:1	70.77	٥٠		ELAYS		RWY	251	7 /	-	2 0	17.6	25.9	54.3	9.0.	7.7
	ARRIVAIS	RWY	25R 2	0.0	0 0	0.0	0.0	0 0	<u> </u>	0	<b>o</b>	ARRIVAL DELAYS	AVERAGE		25R	0.0	6.0	00	00	0.0	0.0	~;	2
		RWY	24L	<i>و</i> د	0 1	•	3	3 3	$\vdash$	ł.	00	ARE	A	RWY	24L	27	3	2	0.0	0	00	\ \ \	3 5
		RWY	24R	,	2)	7.7	17.0	31/	-	-	23			RWY	24R	7.7	5	0.7	13	7.3	47.4	36	2.5
<b> </b>	工程			7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15		T I ME	!		7-8	8-9	9-10	10-11	71-17	12-13	13-14	14-15
<u></u>						L	<u></u>	L	ــــــــــــــــــــــــــــــــــــــ	ــــــــــــــــــــــــــــــــــــــ	نــــــــــــــــــــــــــــــــــــــ	Ц					ال			_			



#### EXPERIMENT NO. 8

# Objective:

To obtain baseline delay estimates for the following runway configurations in IFR 1 for 1982 demand.

To obtain delay estimates for 1982 with no improvements to the airport.

ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

24R, 24L, 25R, 25L

24L, 25R

# Related Comparison Experiments:

Experiment 12 is identical but with an improved ATC system (1982) scenario and the 1982 near-term improvements.

Prior Experiment =2 is identical except for a 1978 demand.

TABLE 14

SUMMARY OF RESULTS

EXPERIMENT NO. 8 ( MOOIFILD DEAVILE)

TABLE 15

SUMMARY OF RESULTS

EXPERIMENT NO. 8A (MODIFIED DEPOND)

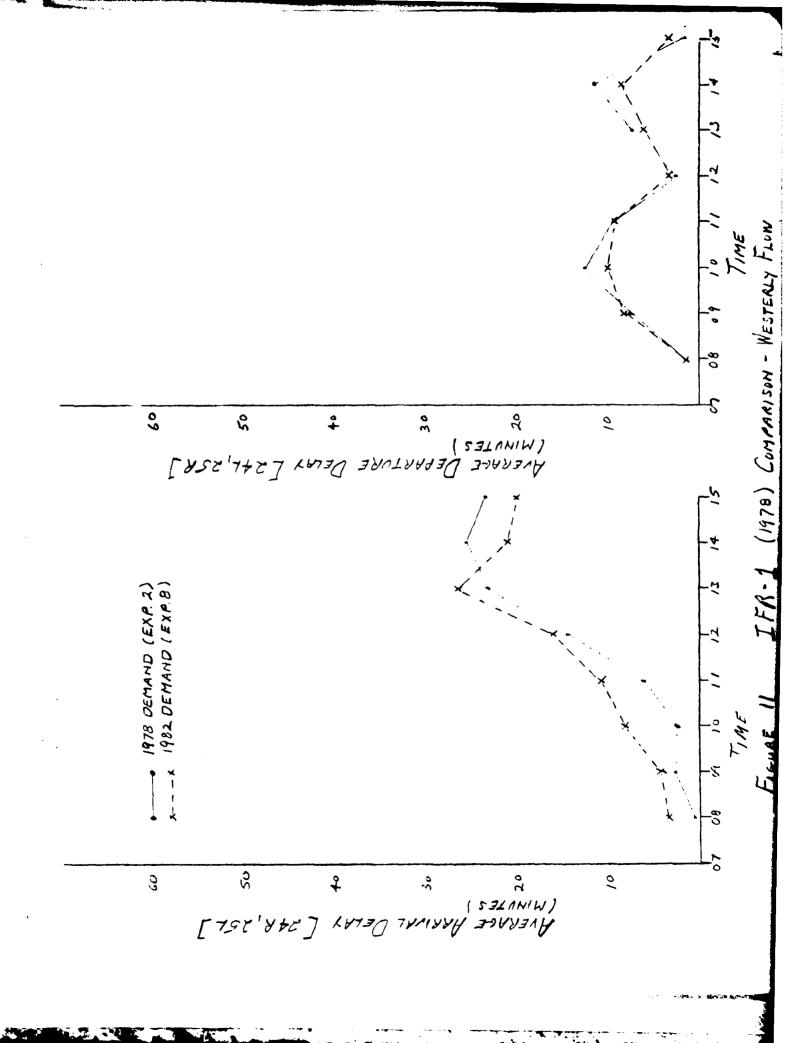
_						_		_	7		-1		1		T	٠	1	1	Τ.	ī.	T	T	Ti	T
WEL		OI		BO!	7.3	17.2	20.0	177	9.9	17.9	18.9	14.9	ē	7	DEP.	DELAY	1.7	76	14.3	10.01	3.7	12.7	2 2 1	1,7
AVERAGE TRAVEL	Œ		SES.	OT	4.1	4.6	7.4	4.5	4,5	47	47	3.4	CRAND	TOTAL	ARR.	DELAY	ار ده	4,5	44	4.2.	22.2	322	1.77	40.8
AVERA	TIME		ESES	U I THI	12.2	A,	13.61	2.60	32.7	41.4	54.9	99.9			RWY	CONG.	0 0	7:7	51	3.7	1.0	0.0	0.1	0,6
		DIFF.			0.9.	7.2.7	20,6	45.6	-4.7	10,7	+1.1	+7.3			TAXI-	our	0.3	0.6	9.0	4.0	4.0	0.2	4.0	20
		DE- MAND			50	29	27	50	35	68	57	45			RMY	CROSS	0.0	<b>∂</b> ℃	00	0,0	0.0	0.0	00	o 2.
	DEPARTURES	AVG. I TOTAL P FLOW			47.0	1975	475	8,50	50.3	57.3	1.25	503			ALL	RWY	1.7	6.7	7.21	12.4	3.2	1.5	12.1	8.2
		RWY	72T		0.0	00	00	00	0.0	0.0	0.0	0,0	DELAYS		RWY	251	0.0	0.0	0.0	0.0	0 0	200	0.0	0,0
		RWY	25R		0 02	30.6	12.97	25.6	22.5	1.12	30.05	22.5	DEPARTURE	AVERACE	RWY	25R	1/	73	14	6.7	6.7	10.7	5.01	5.0
		RWY	24L		140	24.0	7621	272	278	26.4	18.1	27.8	DEPA	AV	RWY	241	+	9,6	15.1	18.3	4.3	12.5	14.2	2.01
RATES		RWY	24R		0.0	0.0	00	0.0	0.0	0.0	00	0.0			RWY	24R	00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLOW	ARRIVAIS	DIFF.			35		0'5	-10.01	12.0	3.6	8.6-	-5,3			TAXI	NI		2.2	0.7	0.7	170	110	0.1	0,1
AVERAGE					16	- 11	56	- 75	- 59			`			RWY	CROSS		70	70	770	110	0.2	0.3	0.3
V		AVG. DI	TOTAL MAND	r LOW	28.5	17	38.0	5	30	3 76	7	7				ŽĮ.	7	017	2.7	16.2	23.7	27.3	45.8	40.5
				<b>.</b>	151	43 4	3	74 1 3	508	7	24.1 4	263 44	LAYS			+	+	_	2		13.9	11	-	70.6
		THE RATE	25R 25L		0 121	.0 74	0.0	0'0	0.0	0	0.0	0.0	ARRIVAL DELAYS	AVERACE		<u></u>	o	0:0	0.0	0.0	37	0.0	00	100
		Y RWY			0	0	-		-	0 00	-		ARRI	AVI	_	+	+	200	00	0.0	7 77	0,0	0.0	
		RWY	24L		0	4 0.0	0.0		0,0		-	-				7	0	0	7	+	7	၂	┪	8
		RWY	24R		7.0	12.	115	+ 1/	027		121	13.4				124	1		500	7-7-1	7 17	3 9.1	4 2.4	9
	TIME				7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15		LINE		]			07-6		7-1-1	12-13	13-14	14-15

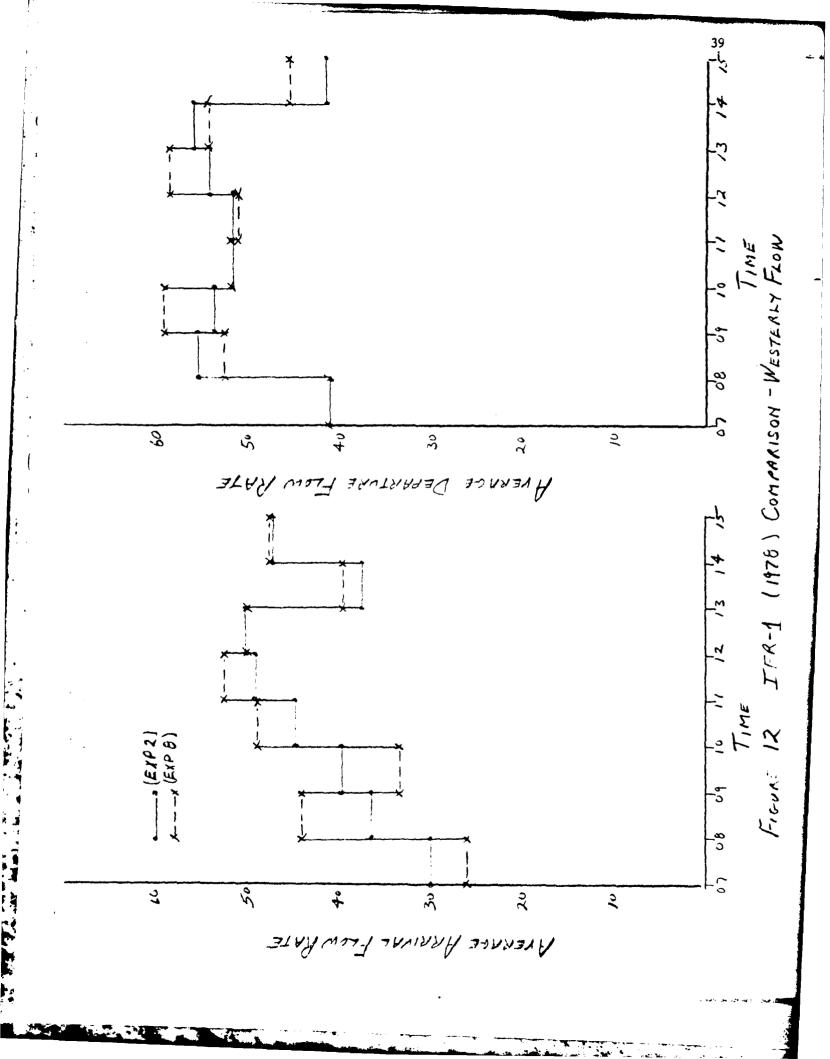
TABLE 16

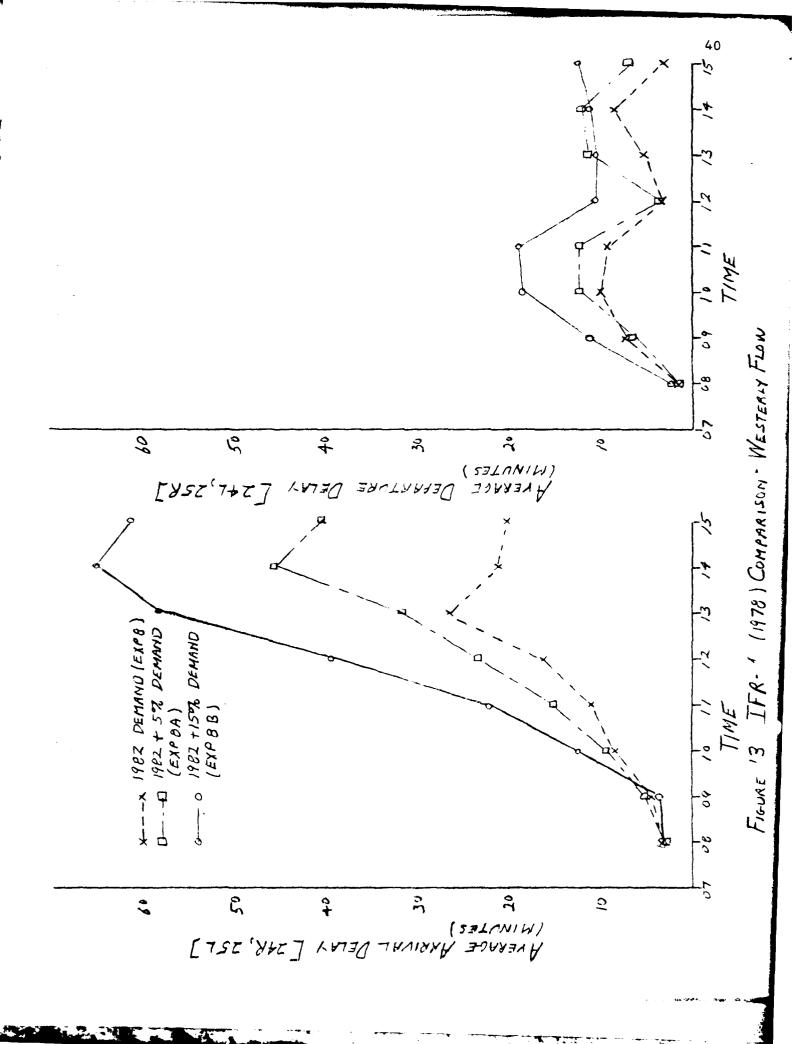
SUMMARY OF RESULTS

EXPERIMENT NO. 8B (MOUIFIED DESTRIBLE)

	VEL		OT		IV IO		•		12.5	29.5	34.8	27.2	10/2	Tin	277	242			1	DEP.	DELAY \	1,1		1	23.9	24.6	T	J١	1,1	一
	AVERAGE TRAVEL	TIME	.H; TT.				1	٠.	1	2,0	4.6	4.6	一	Jo	J	47	CRAND	TOTAL		ARR.	DELAY (I	2.6	1-1-1		7	27.0	7	+		オペジ
	AVERA	F	O)		IX		1/4	12/2/	1	イバイ	31.7	49.1	67.7	2		7.3		T		KWY Y	CONG.	0.0	2.0		N	9.3	97	4	しん	小
			DIFF.				27.0	200	T	+10-1	+++	01/-	166-	73.	,	+5.0				IAX !-	r Too	4.0	40	00		0.7	0:/	0.8	T	1
			MAND				2.5	7.	1:	1	25	99	74	77	1	7	;		PLIN	00000	CEOUS	0.0	0,0	0,0		0	0	0.0	0.0	5,6
	٥		TOTA!	10.0	* CO*		48.6	58.9	100	1	77.4	55.0	673	56 8	•	240	S		A1.1.	276		17.0	11:2	18.7	0 %	ч	10.7	102	11.11	127
	DE DA PTITOES	DI IS	2.51	3			0.0	0	00		0	0,0	00	0,0	0		UELAYS	- (	RWY	251		o S	0.0	00	9.9		0.0	0.0	0.0	0,0
	nev	270	25R	:			23.4	28.9	28.3	1,5	۸ŀ		10 X	29.3	2 % 0	700	DE FARIORE	AVERAGE	<u>₹</u> ₩	25R	200		3	17.7	16.2	1	1	10	2.0	5.0
		238	241	!		1	2 1 1	25.0	267	27.2	J	2	18:	27.5	28.2	DE D		4	RWY	24L	6	1/2/	1	70.7	12.1	12		7:91	1	15.4
V RATES		SEE.	24R			1		000	0.0	0.0		•	5	о 0	0,0			12.5	KWY	24R	0.0	0		0:0	0.0	0.0	3		•	000
MOTA 35		DIFF					1	7	-3.4	2.7				77	(,)			12.48	TWY	N	1.0	0.2	1		4	6.3	•	٠ (		0.4
AVERAGE		DE-	_			30	İ	7	46	3	15	1	3,	4.	9			2770	T MY	CROSS	0,1	1.0	0.2		7	0.1	0.2	J	ſ	4
		AVG.	TOTAL	PLOW		19.4	44 /		27.0	72.9	49.1	4.14	. T		56,5			ATT		XMX	2.6	3.8	13.4	٦ [:	41,44	37.6	58.2	65.1	7.19	
	AIS	RWY	25L			124	220	100	1	1,82	26.8	777	Tien the	9,77	263	DELAYS	E3	RUY	2 64	767	4.4	4.2	17.3	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1/3	777	73.2	889	96.7	
	ARRIVAIS	RWY	25R			0,0	0.0	3		0	o,	0.0	5		000	ARRIVAL DELAYS	AVERACE	RWY	250	17,1	2	0,0	0.0	0.0	9		0.0	0.0	9.	
		RWY	74T			0.0	0.0	,	1	0	0,0	0.0	c		3	A A		RMY	177		1	2	0,0	0.0	0		0.0	0.0	0.0	
		SH7	24R		7	0,7	21.1	12.9	0,0	000	22.3	21.9	22.1	27.7				RWY	24R		1	1	4.7	5.3	21.8		777	76.5	6.9	
	TIME				,	8-7	8-9	9-10	10-11		11-12	12-13	13-14	14-15			工器			7-8	B.O.	0-10	P K	11-51	11-13	5.	12-13	13-14	14-15	







### EXPERIMENT NO. 12

### Objective:

To assess delays to aircraft in 1982 for the following runway configuration in IFR 1 with an improved ATC system scenario(1982) and the 1982 near-term improvements.

ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

24R, 24L, 25R, 25L

24L, 25R

### Related Comparison Experiments:

Prior Experiment #8 is similar except for the noted improvements and a 1978 ATC system scenario.

1.4.0

TABLE 17

SUMMARY OF RESULTS

EXPERIMENT NO. 13 (MOUNTIES INFINED)

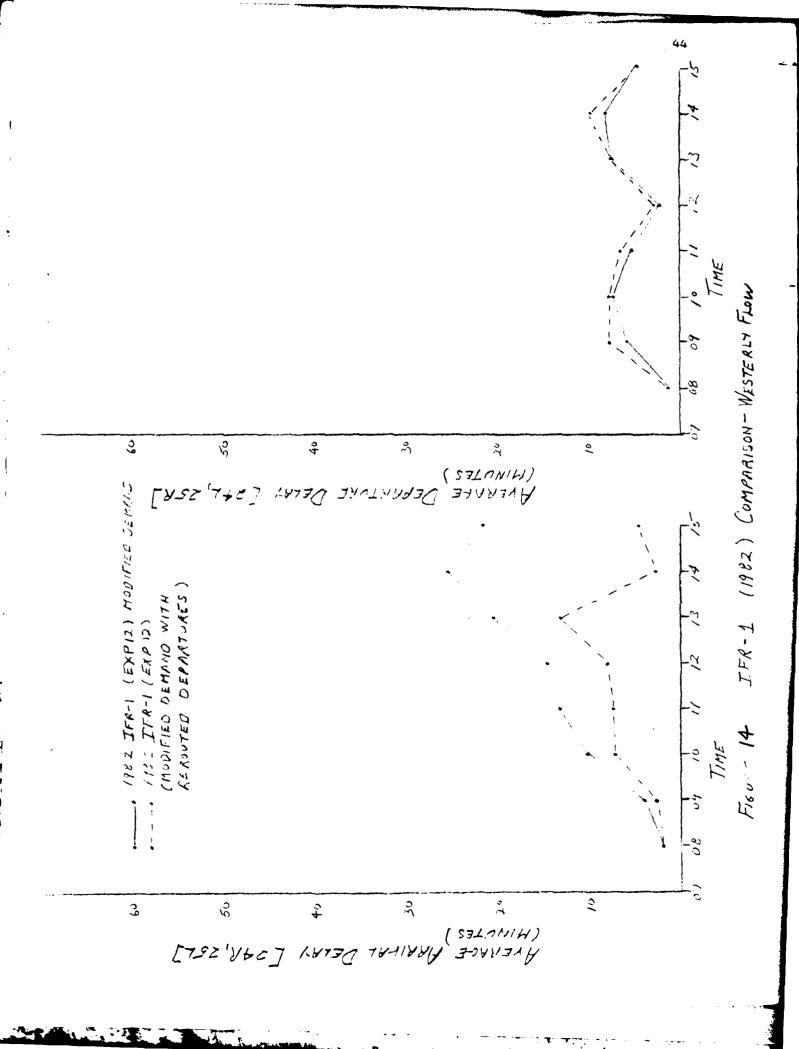
71 WE RWY RWY 24L 24R 24L 24R 24L 24L 24R 24L 24L 24R 24L 24L 2-8-9-10 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ARRIVA1S										-				AVERAGE: ARANGE
Rux Rux Bux 24.8 2 24.8 2 24.8 2 2 20.0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 2 2	·			1			DEPA	DEPARTURES				TIME	띶	
248 2 20.00	7 2	2	G.	DE- I	DIFF.	RWY	RWY	KWY		AVG.	<b></b>	DIFF.	• н:	.HS	OI
25.00 25.00		251.	TOTAL	HAND		24R	74T	25R	25L		MAND				
25.22 25.23 25.23 25.23 25.24			FLOW							FLOW			THE	THI	CA7 ROA
20.0 22.2 25.5 25.6 25.6 25.6	00	220	1037	25	0=	30	0	077	000	410	48	-7.0	105	12	53
25.22	1	100	1,7	4	10:1	0.0	7 7	ار میں	0	2 46	4	-9.3	13.6	400	13.0
22.2	1	2:6	3/8	18	1.2.	00	27.8	37.2	0.0	65.0	45	0.7/+	2.31	43	13.3
25.5	0		13	7	25	0.0	2007	112	0.0	1.06	48	- 1.9	230	47	0,21
25.6	0	<del>}</del> ─	20.0	23	27.7	03	0.27	37.8	0.0	98.9	52	-2.3	19.9		`4
	000	6	16.94	44	14.9	0.0	14.9	380	0.0	1.67	65	1.01-	ω١.	. 3	13.9
_	0.0	100		40	-4.7	0	211	36 :	0.0	522	2.3	+3.7	344	4.5	15.6
2, 3	00	19.5	412	5.3	21-	00	8.01	337	0.0	24.5	4	アジナ	8.00	4.6	10.01
	ARRIVAL	DELAYS					DE P.	DE PA RTURE	DELAY	S				CRAND	<u>e</u>
an I	AVERACE	ĘIJ.					A	AVERACE						TOTAL	ارد
RWY RWY	RWY	RWY	ALL	RWY	TAXI	RWY	RWY	RWY	RWY	ALL	RWY	TAXI-	RWY	ARR.	DEP.
$\neg$	25R	25L	RWY	CROSS	IN	24R	24L	25R	25L	RWY	CROSS	our	CONG.	DELAY	DELAY
7-8 00 0.0	3	7 .	2.0	0.1	0.3	00	/ ر	97	00	//	د ي	1.1	00	24	1,3
8-9 12 00	0.0	15.7	91	0.0	03	0.0	1.0	1.7	2.0	6.3	23	50	0 9	45	2.6
9-10 0 0 0.0	0.0	13.6	10,1	70	0.2	0.0	23	10,5	0.0	121	0.0	15.0	0.5	10.5	8.1
0.0   3   0.0	0.0	22.4	13.2	0.1	0.1	0.0	19	1.8	0,0	719	0.0	9.0	50	124	7.0
11-12 /3 00	0.0	12.5	HIS	10	0	0 0	87	24	00	22	0.0	7.0	0,0	14.7	2.4
12-13 3.1 6.0	0.0	32.5	20.4	0.1	6.3	0.0	777	10.5	0.0	27.6	0.0	4.0	077	202	1.0
13-14 0.3 2.0	0.0	32.1	1555	9.2	0.1	0.0	0 %		0.0	2.5	0.0	0.4	7	258	6.9
14-15 / 0   0	0	26.3	21.6	100	7.0	0.0	100	25.3	0.0	46	0.0	70	110	21.8	49

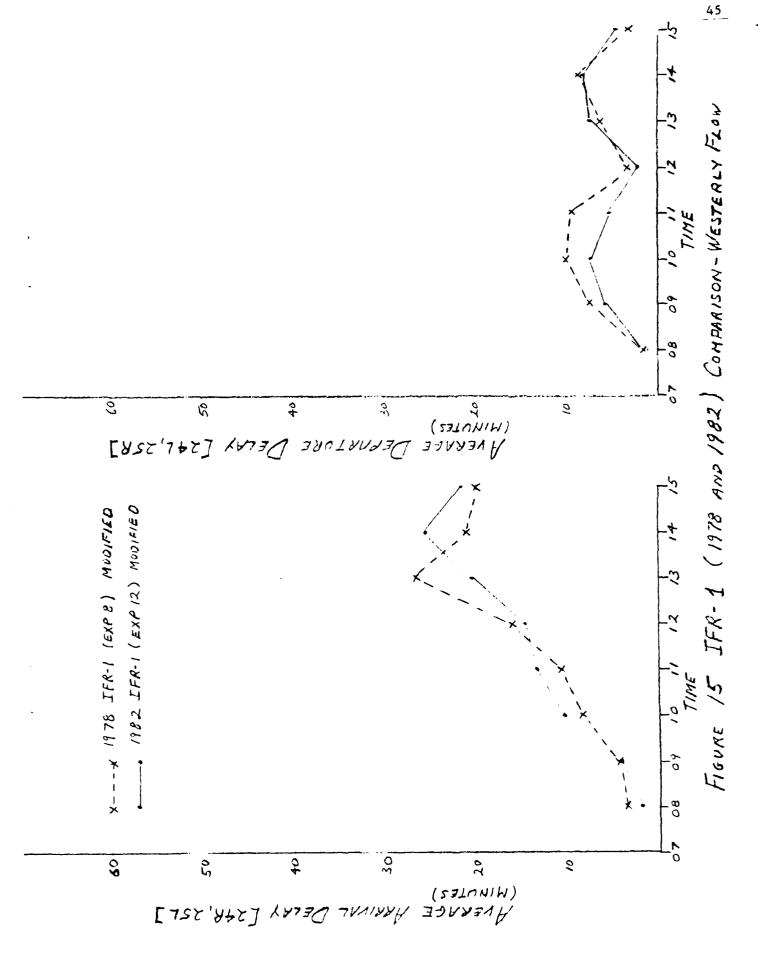
TABLE 18

SUMMARY OF RESULTS

EXPERIMENT NO. 12 (MINUTER OFFICE TO 24L)

						AVERAGE	WO.19	RATES							A VERA	AVERAGE TRAVEL	ÆI.
-			ADDIVATS	511			4			DEPA	DEPARTURES				118	띶	
2 1	RWY	RWY	RWY	E. S.	9	-30	DIFF.	KMY	RWY	RWY	-			DIFF.	OJ HS	SH.	
	24R	74T	25R	25L	TOTAL	MAND		24R	24L	25R	75T	FLOW	Je se		THRE	тикк то с	CATE ROLL
				5	\$ 1					0 / 6	1	410	44	-7.0	20%	42	5.3
7-8	$^{\circ}$	2	5	2.4.0	300	2			1000	-1	1		*	0 0	4	ł.	14.2
6-8		^	٥	74.7	47:1				147	25.5	3	513	*	√, k	99/	4	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
01-6	36.	1		7/.0		34	10		21.3	24.2	0	50.5	48	125	17.2	4.7	13,5
10-11		1			2/2/2	62	١V	3	6.31	30.2	,	166	S	-2.1	7.7	47	6.3
1 2	+			23.0	× (~	44	+96	0	28.5	27.4	0	56.2	33	1 20	22.0	48	19.7
13-17	1	1	3 5	227	10.	40	-0.8	0	0.4%	21.6	9	58.6	25	+4.6	13.1	4.6	127
14-15	13	);	ck	205	+-	3.5	-05	0	16.7	29.8	0	46.5	14	+5.5	14.0	4.7	10,6
	1	1	RIVAL	ARRIVAL DEIAYS	1	-			DEP	DEPARTURE	DELAYS	S				CRAND	a a
, 4			AVERAGE	3.						AVERACE						TOTAL	וָר
	REZ	RWY	RWY	RWY	ALL	RWY	TAXI	RWY	RWY	RWY	RWY	ALT	RWY	TAXI-	RWY	ARR.	DEP.
	24R	24L	25R	25L	RWY	CROSS	IN	24R	24L	25R	25L	RWY	CROSS	our	CONG.	DELAY	DELAY
7-8	9.0	0.0	0.0	23	2.0	1.0	02	00	0,1	27	00	1:1	2	5 2	o, c	23	13
8-9	1.9	0.0	9.6	3.5	2.8	0.2	70	20	8.6	8.5	0.0	2,6	00	5:0	17	32	2.6
9-10	0	9.5	ې ز	9.2	7.1	0.3	0.2	0.0	11.7	43	00	4.8	0.0	0.7	7.3	7.4	407
10-1	1 1.6	9 (	0.0	114	73	0.1	0,1	201	7.4	5.1	0.0	44		0.0	7	777	3.7
11-12	2 14	0,	20	13.5	80	0.7	4.7	20	7	3.7	20	28	0 7	22	0.0	72	1:5
12-1	13 7 3	0	00	129	13.1	02	0.1	0.0	/ (//	6.0	0.0	1/2/20	0	ر ان	0.3	4:1	122
13-14	4 1.2	00	0.6	3.5	29	0,2	0.1	0.0	13.1	5.5	20	6 6	0.0	10		3.2	11/1
14-15	5 1.4	0.0	2	17.7	4.7	10.2	0.7	00	57.3	12.7	000	43	0	10.4	107	50	154





### SET <u>3</u> DEMAND VFR--EASTERLY FLOW

EX PI MEI	ERI- NT	rwy 6 <i>R</i>	RWY 6L	RWY 7R	RWY 7L	TOTAL
6	A	19	80	155	97	351
	D	160	38	81	140	419
	TOTAL	179	118	236	237	770
6*	А	19	124	119	89	351
]	D	160	38	81	140	419
	TOTAL	179	162	200	229	770
9*	A	17	118	133	95	363
AHD	D	171	42	78	135	426
16*	TOTAL	188	160	211	230	789
	Α					
	D					
	TOTAL					
	A					
	D					
	TOTAL					
	A					
	. D					
	TOTAL					
	A					
	D					
	TOTAL		}			

<sup>\*</sup> MODIFIED DEMAND

### EXPERIMENT NO. 6

### Objective:

To obtain baseline delay estimates for the following runway configuration in VFR 1 for 1978 demand for east operations.

ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

6R, 6L, 7R, 7L

6R, 6L, 7R, 7L

### Related Comparison Experiments:

Experiment #9 is identical except for the 1982 demand.

TABLE 20

SUMMARY OF RESULTS

# EXPERIMENT NO. 6

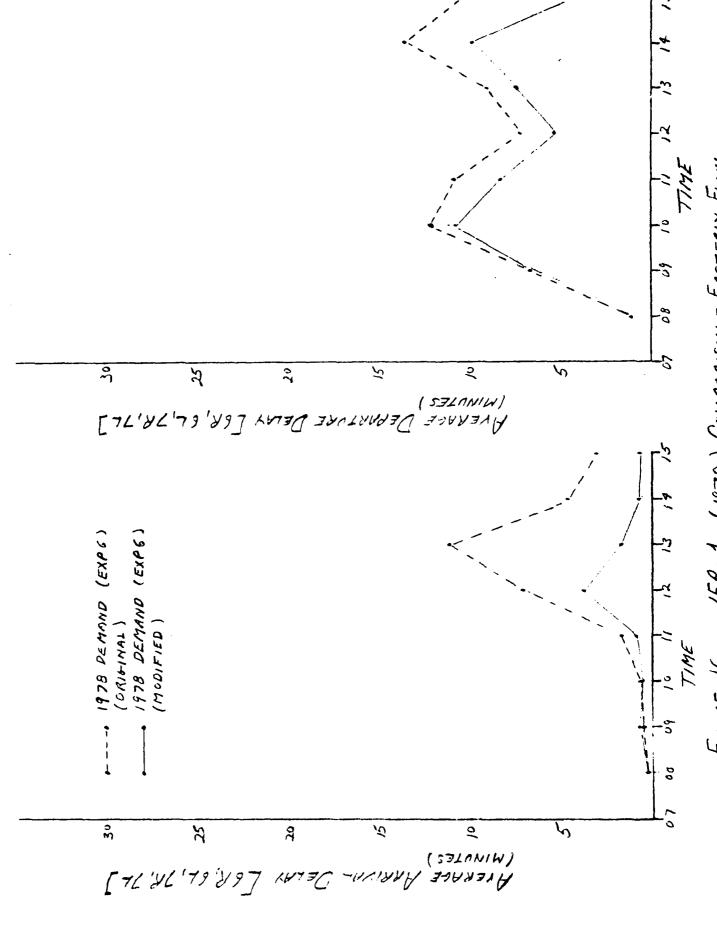
														_			·		<b>,</b> .			_	
VEL		01	ROLL '	7.2	13.0	20.3	23.8	/-/	16.7	26.5	28.2	ŧ .	1	DEP.	DELAY	9.7	7.3	0.51	18.5	0 01	7.	23.5	22.8
AVERAGE TRAVEL	Æ		THRES	43	67.4	2 4	6.1	47	1	37.53	0 9	GRAND	TOTAL	ARR.		1,0	0.8	12	2,	7.7	17.3	1,3	4.5
AVERA	TIME		FIX TO	101	8.0	10 6	1511	17.5	21.8	14.0	13.1			RWY	CONG.	00	710	7	10,4	1.7	5.0	4.6	8'9
		DIFF.		-7.0	-8.3	71.5	-0.3	+1.7	-14.2	+0.5	4.2.4			TAXI-	_	F.0	6.6	1.4	13	2.0	6.7	47	5.8
		DE-	MAND	848	*	2	48	27	65	12	33			RWY	CROSS	5.0	0.0	0	0.0	0,0	0.0	0'0	0.0
	3	AVG.	TOTAL	1/0	133	535	4:7	53.7	50.8	51.5	975	S		ALL	RWY	7	977	12.1	10.7	7.2	9.0	13.5	10,2
	DEPARTURES	RWY	7L	130	16.2	211	17.9	15.6	133	132	31.8	DELAY		RWY	7.7	1.0	10.3	195	22 €	9.7	19.6	23.8	19.1
	DEP	RWY	7R	000	00	7 =	7.0	63	12.1	172	6.8	DEPARTURE	AVERACE	RWY	¥	70	77	4.0	90	143	12.5	20.2	124
		RWY	79	40	57	4.5	1.5	7.5	3.9	2.1	0.01	DEP	۲	RWY	or or	0.0	7.0	1	13	777	15.1	7.7	1.2
RATES		RWY	6R	0.9	27.0	22.6	163	16.7	21.5	0.31	13.0			RWY	OK OK	7,7	1	6.3	09	1-1-1	1.9	7:0	1.4
R FLOW		DIFF		4/.0	07-	-18	-0.3	-2.4	12.0	+2.1	-4.6			TAXI-	N N			04	77	4.0	2,7	40	#//
AVERAGE		DE-	MAND	29	.39	40	ટુ	Ş	45	42	47			RWY	CROSS	0,0	7	· >	7 0	- 3	2	1	10
		AVG.	ㅋ	30.0	350	182	49.7	26.6	47.0	449	424			ALL	RWY	7	5	0.0	7	7/	177	4.6	0 1
	115	RWY	7L	0.5	04	12.1	19.9	4.4	917	14.5	122	DELAYS	<u>.</u>	RWY	77	000	7. 6	07	1	7	1	10	7
	ARRIVALS	RWY	7R	0 01	001	197	228	28.2	24.4	11.7	20.2	ARRIVAL DELAYS	AVERAGE	KWY		7 0	7	07		177	2/2/2/		<b>V</b>
		RWY	19	001	0.//	0.0	0 //	0,4/	9.0	10.01	7.0	AR		RWY	T9	7 3		1	1	1,1	7		* 2
		RWY	6R	020	30	14	10	0/1	20	1.0	3.0			RWY	68		⅃.	-1-	-	- 1	- 1	9	2
1	TIME			7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15		TIME		5		7-0		11-11-	17-12	7	73-14	14-15

TABLE 21

SUMMARY OF RESULTS

# EXPERIMENT NO. 6 (MODIFIED DEFINED)

[:				ROL	7.0	12.8	7.8	7.7	ر. و	£.3	1.1	2,3			DEP.	DELAY	12	1	2.5	-	١	3 .	15	- اد م اد
AVERAGE. TRAVEL	į	TO		TO	5	4	5	7 8	3 /	7 7	8 2		2	TOTAL	ARR.		4,0	0.0	1.0	1	, 0		Tu	1.
AGE	TIME			THR	4	4	4	4	4	4	5	4	_	T	Ž	DELAY		0	0		1 4	1	+	4
AVE	_	• н		FIX	10.1	10	401	0.11	14,2	123	10.0	0//			REZ	CONG	o	0.1	0.0	2.3	0	10	10	.1
		DIFF.			0%-	-7.7	+4-2	40.4	-0,2	-7.3	+4.6	+6.2			TAXI-	our	4.0	0.5	0.7	20		-	10.4	
		DE-	HAND		80	4.	25	4.0	5.2	57	2	31			RWY	CROSS	00	00	0.0	0.0		1	00	0.0
			7	FLOW	410	6.25	215	18.9	51.0	54.7	55.8	45.2	S		AIL	RWY	1.1	ويح	10.7	8.3	2.2	11/2	9.8	4.3
	DEPARTURES	RWY	77		130	129	20.2	212	14.6	13.0	12.8	102			RWY	1/1	1.6	B3	15.3	1.51	0.4	13.0	8.61	79
	DEP	RWY	7R		0 8	80	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	7.5	42	5.91	14.3	63	DEPARTURE	AVERACE	RWY	/R	1,51	3.2	1.9	3.9	13,2	7.9	4.01	22
		RWY	79	·	0.4	20	5,0	2 8	77	42	28	68	DEP	Y	RWY	9F	00	12	137	17	1.5	57	28	/3
PLOW RATES		RWY	6R		09/	29.0	27.9	16.1	15.6	230	20.8	99			RWY	6R	0.8	67	4.4	9/	1.4	5.4	6.7	08
		DIFF.			110	21-	-0.3	-1.7	+2,1	10.6	-0.7	-0.8			TAXI	N.	20	6.3	0.3	9.0	0.3	4.0	9./	63
AVERAGE		DE-	MAND		29	38	40	20	53	45	42	47			KWY	CROSS	00	0.0	10	0.0	0	0.3	0.2	101
		,C.	7	PLOW	30.0	38.0	29.8	46.3	61.1	45.8	418	46.2			ALL			10		00	37	1.7	0,7	9,0
	IS	RWY	7.7		7.0	B. O.	11.9	14.1	83	10.8	139	9.1	DELAYS	ы ы	RWY	7.1	00	7,0	40	00	0.5,	0.6	9.0	1
	ARRIVALS	RWY	78		0.07	5,0	13.9	18.2	25.1	17.0	13.9	15.1	ARRIVAL DELAYS	AVERAGE	RWY	× /	40		0	4	128	7	0.7	06
		RWY	- 19		110	0 97	2,51	15.0	220	16.6	13.0	190	AR		RWY	19	7	+		70	10	67	0,5	40
		RWY	6R		20	30	20	07	5.0	2.0	1.0	3.0			RWY	E8	10	L	_		┸	7.0	7	900
	TIME				7-8	8-9	9-10	10-11	11-12	17-13	13-14	14-15		TIME		1		7	7-10	-01	71 - 11	12-13	73-17	14-15



(1978) COMPARISON - EASTERLY FLOW

### EXPERIMENT NO. 9

### Objective:

To obtain baseline delay estimates for the following runway configurations in VFR 1 for 1982 demand for east operations.

To obtain delay estimates for 1982 with no improvements to the airport for east operations.

### ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

6R, 6L, 7R, 7L

6R, 6L, 7R, 7L

### Related Comparison Experiments:

Experiment #16 is identical except for near-term improvements #5, #7, and #8 and a 1982 ATC system scenario.

Prior Experiment =6 is similar with a 1978 demand.

TABLE 22

SUMMARY OF RESULTS

EXPERIMENT NO. 9 (MICHIELO DEMINIO)

									_							_		_			- F	ı
EL		CATE TO	6.3	13.7	6.0	12:4	6.4	4.4	7:27	6.2	<u>a</u>	1	DEP.	DELAY	7.8	1'8	10.4	2.1	3.4	9.0	8.3	3,3
AVERAGE . TRAVEL	भ	THRESH. TO CATE	4.0	4.5	4.3	4.6	4.3	4	4.4	43	GRAND	TOTAL	ARR.	DELAY	8.0	17	70	1.3	1,3	3.0	7.0	7.8
AVERAC	TIME	FIX TO THRESH.	10.6	10.7	6.01	10.5	407	7	4,0	11.7			RWY	CONG.	0.0	0.4	2.0	40	0.0	1.0	0,0	0,0
		DIFF.	-44	-7.5	+ 77-1	+3.3	14.7	20.5	ナドア	+2.5			TAXI-	OUT	5.0	1,5	1.2	0.8	50	1.3	13	4:0
		DE- MAND	48	13	7	46	Z,	55	B	7			RWY	CROSS	00	0.C	0.0	0,0	0.0	0.0	0.0	0.0
		AVG. TOTAL	43.6	26.5	7.25	218	42.3	17.53	25.57	45.5			ALL	RLY	51	2.9	9.0	5.9	29	9%	20	28
	DEPARTURES	RWY 7L	6 9/	183	14.3	169	7.97	193	130	145	DELAYS		RWY	7.7	) ا	113	15.3	8.6	4.8	13	24	3.6
	DEPA	RWY 7R	27	77	773	5.2	8.6	737	122	0.//	DEPARTURE	AVERAGE	RWY	7R	6.7	1 4	57	6.5	35	4.7	7.5	3.3
		RWY 6L	37	1 / 3	4 ?	80	5.0	9,0	5,0	5.3	DEP	Y	RWY	719	9:0	5.8	25	56	8.1	23	3.1	117
PATES		KWY 6R	0%	24.5	31.5	16.8	9.9/	25.1	25.3	12.7			RWY	6R	0.7	2,2	4.8	##	1.5	6.4	5,3	7,1
20.79		DIFF	0:4		0 7	-11	7.7-	+03	-0.5	-0.7			TAXI	NI	02	6.3	02	20	210	0.4	0.3	70
AUPDACP	A E BOAT	DE- MAND	2.5	4	4	5.3	73	44	40	25			KWY	CROSS	1.0	0.7	0.2	03	0.2	0.1	0.1	0 3
		AVG. TOTAL PLOW	26.00	1, 1	1 _	64.9	54.7	1.3	39.0	52.3			ALL	HWY	5	07	7.7	10	6.0	25	2.7	7:1
		7 7	13/2	0	10	7	0 0/	00	0.0/	000	ELAYS		RWY	7.	1.2	2.0	51	2.0	0.9	5.0	0	67
	111111111111111111111111111111111111111	RWY RW	07	10/1	120	20:02	17.6	4.0	170	207	ARRIVAL DELAYS	AVERAGE	REST	7.8	4.0	2.1	200	5/	1.2	0.4	5.0	127
		RWY 61	137	10 5	3.7		7.1.2	5 + 6	\ \?	1	ARE		REZ	61.	0.0	9.0	0.0	0.8	9.0	4.0	0.3	2.7
		BWY 6R	(	10/1	3	0	(	$\top$		1	┪		RLY	6.K	0.0	+ 0	L	40	0.5	2.0		70
+		H H	0 -	0 2	9-10	10-11	11-12	12-13	+-	+		9.4			7-8	8-9	9-10	10-11	11,12	12-13	ग-रा	14-15

### EXPERIMENT NO. 16

### Objective:

To assess delays to aircraft in two of the following runway configurations in VFR 1 with near-term improvements #5, #7, and #8 for east operations and a 1982 ATC system scenario.

### ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

6R, 6L, 7R, 7L

6R, 6L, 7R, 7L

### Related Comparison Experiments:

Prior Experiment #9 is identical except for noted improvements to the airport and an improved ATC system scenario.

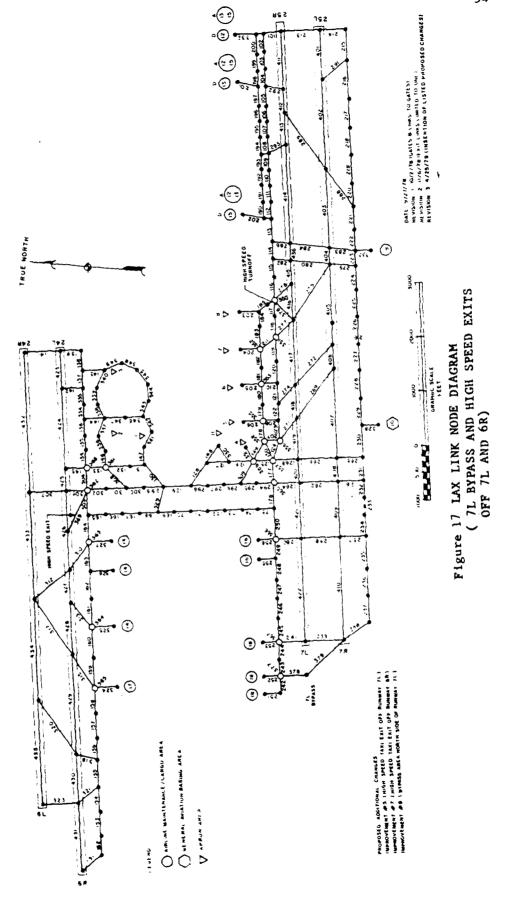


TABLE 23

SUMMARY OF RESULTS

EXPERIHENT NO. 16 (MODIFIED DEMAYD)

									_									_		_	1		1
고 고	T		CATI	20	13.3	13.6	12.0	200	1	13 \$	7.7	2	ľ	DEP.	DELAY	8.1	7.8	10.0	6,3	3.4	8,1	7.9	7 0
E. TRAV		TAS		42	7	2.4	4.6	4.4		44	43	CEANO	TOTAL	ARR.	DELAY	0.5	0.7	1.8	1.3	1'1	22	0.8	2/
AVERAGE, TRAVEL	1 1 ME		FIX	رة 10 م	10.7	10.7	10.5	6.3	13.1	4:01	1.5			RWY	CONG.	0.0	4.0	0.3	6.4	0.0	0,0	0.0	7
T	1	DIFF.		-4,4	-6,8	+2.5	12.6	-3.0	1.6	+1,3	+2,0			TAXI-	our	0.0	1,2	0.7	2.0	4.0	0.0	6.8	40
	Ì			16	64	2.7	48	27	22	t	14			RUY	CROSS	00	0.0	0.0	0.0	0.0	0,0	0.0	7
	ł	AVG. (DE- TOTAL MAND	FLOW	45.6	573	56.5	70.6	49.0	5.4	25.52	43.0			ALL	RWY	١٠ لو	6.1	8.6	125	3.0	2.3	7.7	4
	UEPARTURES	RWY A		17.0 -	18.51	14.8	18.8	125	6.5	14.0	13.7	DELAYS		RWY	7.	9 //	12.0	123	83	115	6.7	8,0	2 2
	UEPA	RAY To at		S. C.	/ 3	イン	1.6	9.0	75.6	11.7	411	DEPARTURE	AVERACE	RWY	7R	25	44	5.4	3,6	74	3,6	9'01	2
			 ਹ	C	6.0	13	200.	5.1	4.1	99	4.5	DEPA	F	RWY	79	20	5.5	23	26	23	4,0	26	01
RATES				16.0	24.6	4.12	12.9	17.0	455	14.7	12.51			RWY	6R	0.7	23	8.3	1	47	118	5.3	//
PLOW		DIFF		0.1+	0.0	0.7	2,0	-2.0	101	-0.2	6'0-			TAXI	IN	7'0	0.3	02	0,2	0.7	£'0	10,1	10
AVERAGE		DE- 0		36	44	10	*	6.7	44	25	2.3			RWY	CROSS	0.1	0.7	02	0.2	0.3	10	0.2	00
V		AVG. D	3	260	(L	1 L	0 11 6			3).(3)	, ,			ALL	RWY	0.3	0,6	4.1	60	10.7	1.7	6.5	01
	ڼ	7	2	0.7	<del> -</del> -	+-	4	╁╾	┼	J.,	-	ELAYS		RWY	71.	67	ار د	13	2.6	0.7	9.0	0.8	\ \ -
	ARRIVALS	BLAY	<b>%</b>	10 6	10 /	1	200	081	0.0	0.00	37.0	ARRIVAL DELAYS	AVERAGE	RWY		50	0.9	2.1	+ 77	7.0	1.0	107	61
				10 14	1012		+	1	25.0	( 0 /	1-	ARE		RWY	61.	0	ار،	00	10.7	0.5	2.7	0.2	70
		-	6R	0 .		+	十	1000	0	0.0	2,0			RWY	6R	5.5	03	9-10 6.0	50	64	202	0.0	2 7
	1170	<u>.                                    </u>		7.8		10	2 - 0 -	11-12	12-13	12-12	14-15		11 100	1 1		7-8	8-9	9-10	10-11	11-12	12-13	13-14	1/1

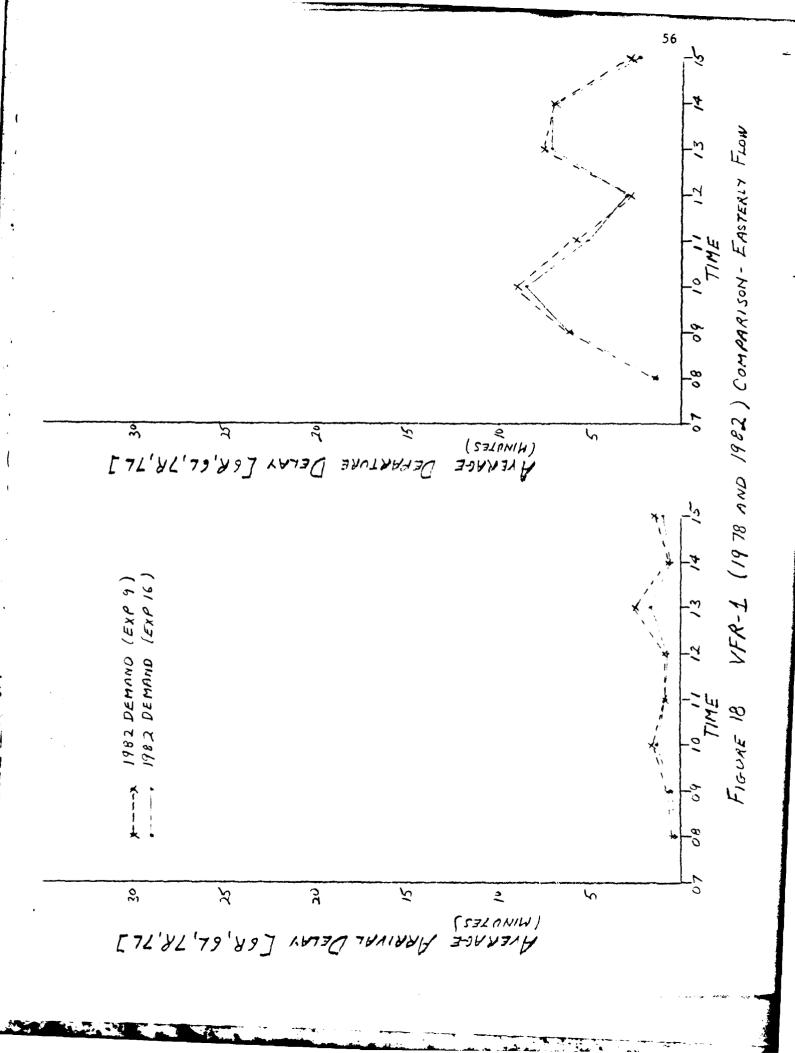


TABLE 24

## SET # DEMAND VFR--NIGHT TIME

EX P	ERI- NT	rwy 6 R	RWY 7L	RWY 24L	RWY 25R	TOTAL
4	A	31	87	0	0	118
	D	0	0	69	69	138
	TOTAL	31	87	69	69	256
4*	A	118	0	0	0	118
	D	0	0	63	75	138
	TOTAL	118	٥	63	75	256
10	A	117	0	0	0	117
AND	D	0	0	69	73	142
15 <sup>₩</sup>	TOTAL	117	0	69	73	259
	A					
	a					
	TOTAL					
	A					
	D					
	TOTAL					
	A					
	ā.					
	TOTAL					
	A					
	D					
	TOTAL					

<sup>\*</sup> MODIFIED DEMAND

### EXPERIMENT NO. 4

### Objective:

To obtain baseline delay estimates for the following runway configuration in VFR 1 for 1978 demand for nighttime operations.

ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

6R. 7L

24L, 25R

### Related Comparison Experiments:

Experiment 5 is identical except for IFR 1 weather conditions.

Experiment 10 is identical except for 1982 demand.

TABLE 25

SUMMARY OF RESULTS

EXPERIMENT NO. 4

_			,				_	_	Τ		_	<b>-</b>			<u>,</u> ,					÷					<u>,                                    </u>	<b>-</b> -	<del>-</del> -	
1,000	AVEL			TA (JO		2.6	120	22.7	177	757	1	7	17-7-1	70.5	e	•	اب	DEP	DELAY	7	4	1	16.7	70 %		12.12	1	43
AVFRACE TRAVET	2	1 M.	ESH.			7 6	7	4 +	1.4	4	1		14	40	GRAND	かつかん	101	ARR.	DELAY	1	1	#:1	12.0	2.3	0 2	100	1	1
AVFRA	77.4		TO.	XI.		11.7	14.7	358	32.7	10.7	10	2000	500	14.4		T		RMY	CONG.		1		0.5	1.7	7.2	00	. 1 `	1
Γ	T		DIFF.			0//-	+35	0.0	0 8/+	-45	1.7.7.	1		305-				TAXI-	our	3 (2	000	. 1	0	ر د	0	7		3 ,
		Ì	DE- MAND			74	67	6	4	7	0			48			ì	_	CROSS	0.0	0 0	1 _		00	0	3	000	0
		1		FLOW	1	0 %	12.5	7.0	17.0	11:5	1	1		0,2			7.1.7	_	RWY	(2)	29.1	1. 7/			7.5	7.9	11.2	1.4.7
	DEPARTIRES		55 K		1,	2	0	0.7	10	o د	15.7	70	10	7	DELAYS		VI I	1 4 1	25R	+01	36.7	291		がいい	3.7	9	(.) (0)	23.5
	DEPA		24 <b>F</b>		13	ه اد	4.5	0.0	09/	. ,	ر ت	0 21			DE PAKTURE	A VERACE	200	1 :	7,4,	7.7	45.8	0 0	0 0 0		٠.	0	15.4	27.3
		100 100	7.T		1		1	1			-,			12.00	DEFA	ΑV	RWY 1		7	7	0	C		1	1	1	3	~.
RATES		21.10	6R		1	1	1	1	7								RWY	ay	5	\ \ \	ो	.3		) 	1	1	1	ì
AVERAGE PLOW		nien			23.62				777	0	7:0	. j. j.	- 19.0		1		TAX1-	2			1	0	0.0	-0	-		1	0
AVERAG		71.5			6/	0,	9	1	4	9	7	16	56				RWY	CROSS			٠,	0	ر د	0.0	000			3
		_	TOTAL		17.3	1		3	?!	0.0	6.3	0 57	10.0				ALL	KMX	T	0			22.5	0.1	7.0		0	1
	IS.	_	25R		0		, 3				3		0	ELAYS			RWY	25R	,,	.,	T	1	3	7			j.	
	ARRIVAIS.	KWY	24L		0					5 6	,	5	0	ARRIVAL DELAYS	AVERAGE			241.	-5	``	-	Ì		1	. ,	. 3	1	
		RWY	7.		0.7	15.0	17	1		7	100	1	53	ARE	~		KWX	1		5.0	22.8	1	1	7-0	0	10	7.7	
		RWY	68	1	33	_ ` †	5		.	, , ,	1	21	3.5			MIN	I MY	ă		0 5	~ //	07	•	5	3	0.0	0 7	
					3	1-2	2-3	3-4	4-5	2-5	17		8-/	1	71 17	:		Ť.		7-1	2-3	7-5	T			-	η-/	

TABLE 26

SUMMARY OF RESULTS

EXPERIMENT NO. 4 (MILLIFIED DEMAND)
(ALL HANIVALS ON 6R)

						A V P. RAGE.	F PLOW	7 RATES							AVEDA	AVERACE TRAVET	1.27
4 1			ARRIVAIS	ALS						111. P.	HF PA PTIIVEC	0			אר לי בייני ייניים אוריים	, c	\ \ C.L.
	RWY	RΨ	RWY	RWY	AVG.	-30	DI P.P.	MUN	>FIG	216	200					LIME	
	6.K	7.	24L	25R	TOTAL		•	6.R	7,	24,1	15WI 25R	AVG.		DIFF.	• H:	H:	ΟŢ
					PLOW						:	TOTAL	MA:ND				
												MOT.			XI AF	(A)	T.
0-1	0.2	0	G	<	10	0				-						IT T	
1-2	214	;		,		1	9	2	0	9.6	977	212	14	2 2	C 41	4	0 00
1	1:	X	3	9	1	9	43.4	3	0	09	35	27	9/	2	1	1	212
	2	ç	0	0	2.5	7	4.0-	0	<			200		3		5	123
77	6.0	. 1			177	-	1			1		12	+	-5.6	163	5-4	16.0
4-5	0.01	,	ī -	9		15	7			4:4	0.7	24	*	+2.4	8.6	5.2	11.5
2-0	1	, (	1		2	2	2	٥	9	3.0	50	() ()	~	41.0	8.0	52	7 7
-	3	3		7	7.0		000	0	0	0	5.0	0 4	2	500	10:	14	7
)-i	797	3	1	q	03	76	00	0	0	2.9	00		2	2 -	1	1	1
χ-/	6'3	ં	~	9	67	20	-27 1	3	-	7				17:	127	7	10,5
		AR	ARRIVAL DETAYS	DETAYS			:{{	,			700	423	4	15.7	30,4	4,5	12,5
3 X			AVERAGE						DEP	DEPARTURE	DELAYS					GRAND	
!	2/10	1	1						4	AVERAGE						"POTA	_
	1 1 1	LMI	I M I	KWY	ALL	RWY	TAXI	RWY	KMX	RESV	21.14		Ī			101	,
-		=	241,	25R	RWY	CROSS	NI	6.	71	1 1/6	2 6 9 6			TAXI-	RWY	ARK.	DEP.
	1	0	C 0	0.0	3.6	0.0	- 3	6		7	NC 7	IMI	CKUSS	our	CONG.	DELAY	DELAY
7-1	19	0.0	0 0	0.0		0.0	, c	, ,		7:2	5.0	42	0.0	0.1	0.0	3.7	27
2-3	63	0 0	0.0	0.0	00	3 9	3 5	3	200	215	10	وزه	0.0	0.1	0.0	0	10
3-4	03	00	99	6	100		3 3	0.0	0.0	43	0.7	201	0.0	0.0	0 0	0	100
4-5	0.3	0 0	0.0	00	1		- 1	9	200	0.9	0.0	5.1	0 0		0		71
9-9	1.0	0.0	0.0	0 0	1.		0	9	0.0	7,0	0.0	2.6	0	5		1 1	1
1-9	~	13.0		1	1			00	0.0	0.0	0	0		7	3/3	7	3.6
8-1	10		7			0.0	00	0.0	0.0	123	4 '	A	3/5	9,9	0	0,10	0,0
	1/2	,	2:0	00	21.4	00	0.0	00	00	100	, -	31	2	2	373	3.1	4.8

### EXPERIMENT NO. 10

### Objective:

To obtain baseline delay estimates for the following runway configurations in VFR 1 for 1982 demand.

To obtain delay estimates for 1982 with no improvements to the airport.

### ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

6R, 7L

24L, 25R

### Related Comparison Experiments:

Experiment 10A is identical except for IFR 1 weather conditions.

Experiment 15 is identical except for near-term improvements #5 and #7 and an improved ATC system scenario.

Prior Experiment 4 is identical except for 1978 demand.

TABLE 27

SUMMARY OF RESULTS

EXPERIMENT NO. (0 (HOUTERD)

								_							_		7	Υ	_	_	<del>, -</del>	_	7	_
VEL		OT		CA1	120	153	15.8	14.4	5.5	13.1	11.7	111			DEP.	DELAY	12	6.7	10 1	7.9	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1	1	6:1
AVERAGE, TRAVEL	TIME	H. TE		THE	25	* 5	23	4.6	5.3	5.3	5.4	7:5	GRAND	TOTA1.	ARK.	DELAY	0.8	232	1.4%	0 '	0.0	100	1	210
AVERA	LL	. н		XIT AHT	10.6	33.9	34.0	11.2	///	13.6	123	50,05			RWY	CONG.	00	00	3	3	00	00	000	0.0
		DIFF.			-2.2	-23	+3.4	12.1	-3.9	+5.9	-23	-5.0			TAXI-		0	00	02	0.0	0 0	0.0	0.0	0 3
		DE-	MAND		7.7	19	01	4	7	10	81	48			RWY	CROSS	0.0	0.0	0.0	00	0.0	0.0	0	0 0
		AVG.		FI.OW	23.8	16.7	134	19	3.7	15.9	1.51	43.0	S		ALI.	KMX	2,6	16	10.3	7.9	0.5	2.0	\$ \$	58
	DEPARTURES	HMY	25R		13.0	2,0	0.9	2.0	011	7.0	11.0	26.0	DEIAY		RWY	25R	6.3	0.0	0,0	0,0	0.0	O 0	20	20
	DEP	RWY	24R		10.6	9.2	7.4	4.1	2.1	8.9	4.1	17.0	DE PARTURE	AVERACE	RWY	24L	6.77	15.7	18.6	11.7	0.0	12.6	23.8	13.8
		RWY	7.		0	0	0	0	a	0	0	၁	DEP	۲	RWY	71.	0 0	00	0.0	0.0	00	00	0.0	0.0
RATES		RWY	6R		0	0	0	0	0	0	0	၁			RWY	6R	00	0.0	0.0	0.0	0.0	00	00	0.0
E FLOW		DIFF.			-7.0	-4.0	+9.9	+1.1	+1.0	110	-2.7	-18.5			TAXI	Z	70	00	0.0	00	00	0.0	0	101
AVERAGE		-3a	MAND		19	22	13	4	6	6	9/	25			RWY	CROSS	0	00	000	00	000	0.0	0.0	00
		AVG.	TOTAL MAND	PLOW	120	0.37	229	5.1	10.0	10.0	13.3	6.5			ALL	ΙζΜΥ	· r	22.3		2,0	0:0	ء ٣	4.4	201
	.35	KWY	25R		0	0	O	٥	- 0	0	O	0	DELAYS	ii.	RWY	25R	00	90	_	L		9.0	00	00
	ARRIVAIS	RWY	24L		O	ij	;	į	5	- 6	0	7	ARRIVAL DELAYS	AVERAGE	RWY	24T	30	0	3	000	3/0	3	0:0	90
		RWY	7.		0	0	\$	3	0	9	Ş	*	AR		RWY	77	66	00	3:3	00	3	0	3	37
		RWY	68		120	180	23.9	27.7	10.0	10.0	133	6.5			KWY	6R	10.5	?	74	7:0	١٥٠	2	+1	10,2
	TIME	-			0-1	1-2	2-3	3-4	4-5	2-6	1-9	7-8		TIM		-	- -  -  -	7-1			7			

TABLE 28

SUMMARY OF RESULTS

EXPERIMENT NO. 15 (MODIFIED)

					7	7	_1	7		<u> </u>	Γ.	T			•	7	$\Box$	1	J	J		1		9
PEL		0.	CATE 7	0.21	15.4	16.3	127	5.0	13.0	00/	40	۲	<u>a</u> .	A.L.	DEP.	DELAY	3	25	9	3	00	7.5	4	ic
E. TRA	E	3.	THRESH TO GAT	5.5	5.6	52	47	5.5	5,5	4.5	(	3		TOTAL	ARR.	DELAY	0.8	208	175	07	10	25	0	17.6
AVERAGE TRAVEL	TIME	•	FIK TO	8,0	31.2	12.6	8.8	6.01	13.4	12	100	417			RWY	CONG.	0.0	00	0.0	0.0	0.0	90	00	9
F		DIFF		7.3	6.1	135	1.7	0,4,		3 %	I,	ング			TAXI		0,1	0.0	22	0.0	0.0	0.5	0.1	63
		١.		2	0	7	+	1	1	10	十	12			RWY 17	CROSS	0.0	4.0	00	0:0	0.0	0.0	0.0	0.0
		100	- Li	1		1	1	0	. [		+	42,1			ALL		ح' و	7.3	03	57	0,0	7.0	073	13
	548	13.4		0 23	}_	1	10	10	1	7	1	0	DELAYS		RWY A		03	7	7 7	0.0	0.0	0.0	2	7
	DE DA PTIIRES		125R	7 13	1	100	1	1	1	1	Ţ	4 016	ľ	35	L			70 2	0 3		0	4	-	170
	J.C.		24R	9	9		1	1		7	7	16.4	DEPARTURE	AVERACE	YWW /		121	757	18.	10.1	0	72	5/	13
			RWY 7L	<	4	1	٩	4	7	9		2	DE		ACIA	12	0	٥	o	٥	٥	٥	0	0
	KALES		868 68	1	ماد	2	٠	4	2	0	٥	3			2170	1 89 9	0	٥	0	٥	0	0	0	3
	307	1	DIFF.	1,,	30	2/2	20.5	70	410	3	7.6	-18.4			7.4.7.	N	10	0.0	0.0	0.0	00	00	1.0	0.7
	AVERAGE			+	十	$\dagger$	十	1	1	0	9	35			22 11.	CROSS	0	00	00	0	1			1.1
	4		AVG. DE- TOTAL MAND PLOW		1,	5	大		0'0	0 0	14.2	9:7	)			- \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	T	20.8	401	07	4	28	No.	17
				-	$\dagger$	7	7	4	7	7		 	DET AVS	21.5	-}		十	T	Γ	T		$\vdash$	1	$\sqcap$
		ARRIVAIS.	RWY 25R	1	0	7	7	9	0	٥	0	3				Y RWY	T	-	-	$\vdash$	f		<del> </del>	H
		ARR	RWY 24L	1	0		9	9	0	0	0	5		AKKIVAL	- }	RWY 2.5			+	-	ľ	$\frac{1}{1}$	+	H
. }			RWY 7L		0	0	0	0	0	٥	0	$\downarrow$	4			RWY 3	10	-	1	L	$\downarrow$	4 0	+	+
			RWY 6R		0.2	20.0	31.5	4	0.0	0/	L M	1	9.4			KWY	20	20%	4.	10		7	1	102
		371 F	}		0-1	1-2	2-3	3-4	4-5	2-6	12.9				工工		-		2-3	7-2				

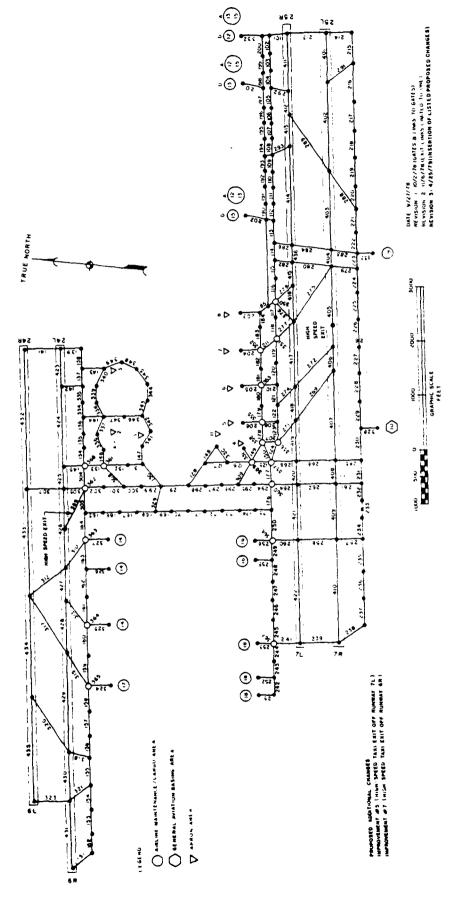


Figure 19 LAX LINK NODE DIAGRAM (HIGH SPEED EXITS OFF 7L AND 6R)

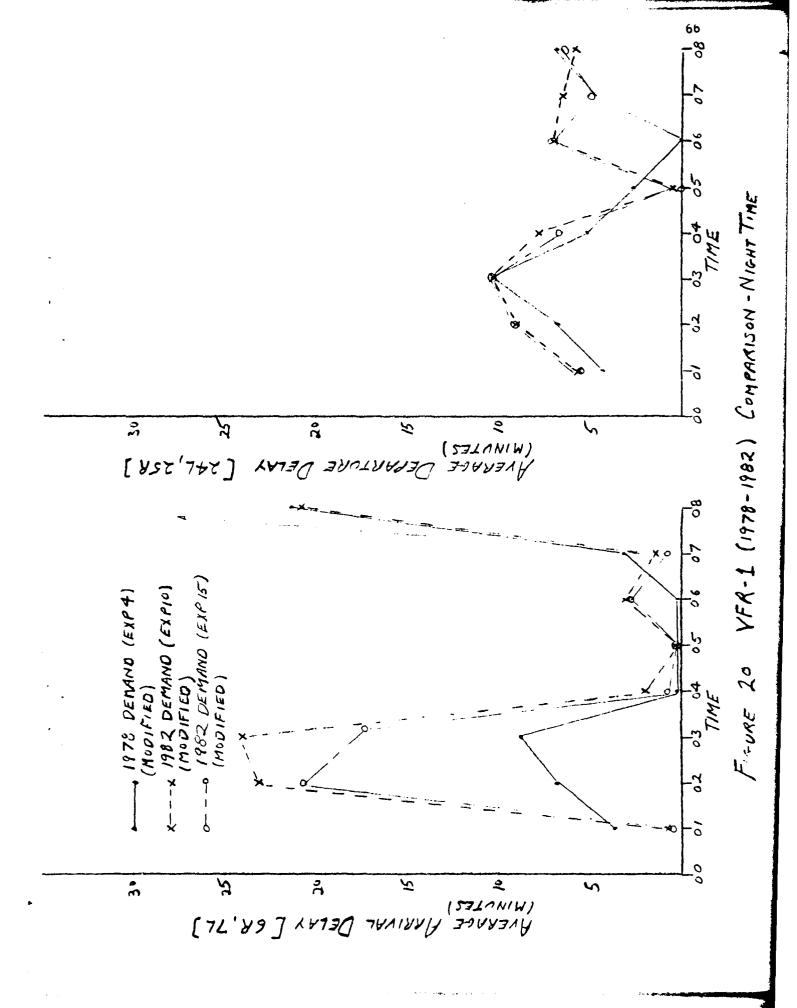


TABLE 29

# SET 5 DEMAND IFR--NIGHT TIME

EXPERI- MENT		rwy 6 <i>R</i>	RWY 7L	RWY 24L	rwy 25R	TOTAL
5*	A	118	0	0	0	118
	D	0	0	63	75	138
	TOTAL	118	0	63	75	256
10A	A	117	0	0	0	//7
	D	0	0	69	73	142
	TOTAL	117	0	69	73	259
	A					
	D					
	TOTAL					
	A					
	D					
	TOTAL					
	A					
	D					
	TOTAL					
	Α					
	D					
	TOTAL					
	A					
	D					
	TOTAL					

<sup>\*</sup> MODIFIED DEMAND

### EXPERIMENT NO. 10A

### Objective:

To obtain baseline delay estimates for the following runway configuration in IFR 1 for 1982 demand.

To obtain delay estimates for 1982 with no improvements to the airport.

### ARRIVAL RUNWAYS

DEPARTURE RUNWAYS

6R, 7L

24L, 25R

### Related Comparison Experiments:

Prior Experiment 5 is similar with a 1978 demand.

TABLE 31
SUMMARY OF RESULTS

EXPERIMENT NO. 10A

|                         |   |                                | 7-7  | _                                       | _  
  | т-                                      | 7  
   
   | 7   
  | 7.   | $\tau$   | 7. 1   |            | - 1               | _   | ~ 1   |  
  | - 1                                     | . 1   | ايم                                     | al                                      | ٠.   | <b>√</b> √   | ~∕!   |
|-------------------------|---|--------------------------------|--|---
--
---|---
--
--
--
--	--	--	--	------------	-------------------	---	---
AVERAGE. TRAVEL TIME	0.			6.61	5/2		
  |   |  
   
   | 10  
  |  | 7 27   | 9  | . و        | اب                | DEP.  | DELA  | 11.7   
  | 13.9                                    | 75  | 42.5                                    | 20:0                                    | 13.6 | 727  |   |
|                         | 3.  |                                |  | 6.5                                     | 27   
  | 1                                       | 本小   
   
   | しい  
  | 14   | 1  | S, C<br>GRAN   | TOTA       | ARR.              | DELAY   | 22  | 43.0   
  | 57.8                                    | 620   | 76                                      | 43                                      | 7    | 1211   |   |
|                         |   | FIX TO<br>THRESH.              |  | 62.8                                    | To C   
  | 10/10                                   | 1.00   
   
   | 11  
  | シブ   | 76.5   | 39.6   |            |                   | RWY   | CONG.   | 0'0  
  | 000                                     | 0.0   | 0.0                                     | 0.0                                     | 010  | 0.0  | 70  |
| AVERAGE PLOW RATES      | HEF   |                                | -8.9   | +44                                     |  
  | 200                                     | 10.0   
   
   | ハパ  
  | 777  | 7.5-   | -11.6  |            |                   | TAXI-   | OUT   | 0,7  
  | 0.0                                     | 0,0   | 0,0                                     | 00                                      | 70   | 6.0  | 00  |
|                         | 1   | MAND                           | 26   | 0                                       | 1  
  | 3                                       | 4  
   
   | 1   
  | 9  | 8  | 48   |            |                   | RWY   | CROSS   | 0,0  
  | 0,0                                     | 0,0   | 0,0                                     | 0,0                                     | 0.0  | 00   | 00  |
|                         | ۲   | FLOW                           | 121  | 724                                     | 1  
  | 0,77                                    | 87.00  
   
   | 65  
  | 15.5                                       | 12:3   | 36.4   |            |                   | ALL   | RWY   | 11.1   
  | 13.9                                    | 26.0  | 422                                     | 20.0                                    | 13.4 | 15.2   | 147   |
|                         | 2   |                                | 9.5  | a                                       | +  
  | 7                                       | 26   
   
   | 8   
  | 1  | 95   | 232  | DELAYS     |                   | RWY   | 25R   | 2,6  
  | 8.3                                     | 25.1  | 39.7                                    | 44                                      | 6.1  | 14.2   | 13.2  |
|                         |   |                                | 7.5  |   | 9  
  | T<br>V                                  | 111  
   
   | 45/   
  | - 4  | 28   | 13.2   | RTURE      | PERAGE            | RWY   | 24L   | 18.3   
  | 17,6                                    | 26.8  | 32 2                                    | 21.5                                    | 16.7 | 19.9   | 17.6  |
|                         | 1   |                                | 1  | ٠ اد                                    | 0  
  | 9                                       | 0  
   
   | 9   
  | 0  | ٥  | 0  | DEPA       | F                 | RWY   | 7.  | 0.0  
  | 0.0                                     | 00  | 0.0                                     | 00                                      | 0'0  | 0.0  | 0.0   |
|                         | }   |                                | (  | 1                                       | 4  
  | d                                       | d  
   
   | 9   
  | a  | 0  | 0  |            |                   | RWY   | 6R  | 0.0  
  | 00                                      | 00  | 00                                      | 00                                      | 0.0  | 00   | 0,0   |
|                         | 1   |                                | ٦  | J-                                      |  
  | 12,6                                    | 8.47   
   
   | 12,6  
  | 40,0                                       | -3.0   | -20.8  |            |                   | TAXI-   | NI  | 0,0  
  | 0.0                                     | 0'0   | 0'0                                     | 110                                     | 0.0  | 7 . 0  | 9'0   |
|                         |   |                                | 十  | T                                       | 1  
  | 77                                      | 4  
   
   | 6   
  | 9  | / /  | Ι.   | 1          |                   | REV   | CROSS   | 0,0  
  | 00                                      | 0.0   | 0.0                                     | 0'0                                     | 0.0  | 0.0  | 0.9   |
|                         |   | G.<br>TAL                      | †  | 9/1/2                                   | 10.4   
  | 3.5                                     | 16.8   
   
   | 9 7/  
  | 975  | 13.0   | 4 2  |            |                   | ATT   | RWY   | 2.2  
  |   | 57.7  | _                                       | -                                       | 49   | 3,5  | 28.4  |
|                         | S   |                                | +  | 9                                       | 9  
  | 0                                       | 0  
   
   | 0   
  | ٥  | 0  | 0  | FIAVS      | 2                 | 2530  | 25R   | 0,0  
  | 0,0                                     | 0.0   | 00                                      | 0.0                                     | 0.0  | 00   | 00  |
|                         | RRIVAL  |                                | 1  |   | 0  
  | C                                       | 0  
   
   | 0   
  | 0  | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \                              | 3 3  | TVAT       | VFRACE            | 21.10   | 1 M Z   | 0,0  
  | 0.0                                     | 00  |   | 0.0                                     | 0.0  | 0.0  | 00  |
|                         | Ą   |                                | +  | 0                                       | 0  
  | 0-                                      | 0  
   
   | \<br>\  
  | 1  | 1  | 10   |            | 4                 | 1   | 1 M2  | 00   
  | 00                                      | 0.0   | o o                                     | 0 0                                     | 00   | 03   | 00  |
|                         |   |                                | 1  | 97                                      | 4,0  
  | 15,6                                    | 18.8   
   
   | 101   
  | 130  | 1  | する   |            |                   | 100   | X M X   | 22   
  | 43.0                                    | 517   | 6.19                                    | 7.5                                     | 4.9  | 2,5  | 23+   |
| 34                      |   |                                | +  | `                                       | 2-3  
  | 3-4                                     | 4-5  
   
   | +   
  | 十  | 0 2  |  |            | HI H              |   | 0-1   | 1-2  
  | 2-3                                     | 3-4   | 4-5                                     | 5-6                                     | 1-9  | 7-8  |   |
|                         | A VENATURE I I COM 1911 COM 1911 COM 1911 RES | ARRIVALS. DEPARTURES TIME TIME | RWY RWY RWY RWY AVG. DE- DIFF. RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY | RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY | RWY         RWY <td>  RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY</td> <td>RWY         RWY         RWY<td>RHY         RWY         RWY<td>RHY RWY RWY RWY RWY RWY RWY RWY RWY RWY RW</td><td>RWY RWY RWY AVG. DE- DIFF- RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY</td><td>RWY RWY RWY RWY AVG. DE- DIFF. RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY</td><td>  NEPARTURES</td><td>  NEPARTURES   TIME</td><td>  NEW   RAY   RAY</td><td>  RMY   RWY   RWY</td><td>  Ruy   Ruy</td><td>  Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy</td><td>  Ruy   Ruy</td><td>  Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy</td><td>  Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy</td><td>  Name</td><td>  NETHONIS   THE   NETHONIS   NET</td><td>  New   Ray   Ray</td></td></td> | RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY | RWY         RWY <td>RHY         RWY         RWY<td>RHY RWY RWY RWY RWY RWY RWY RWY RWY RWY RW</td><td>RWY RWY RWY AVG. DE- DIFF- RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY</td><td>RWY RWY RWY RWY AVG. DE- DIFF. RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY</td><td>  NEPARTURES</td><td>  NEPARTURES   TIME</td><td>  NEW   RAY   RAY</td><td>  RMY   RWY   RWY</td><td>  Ruy   Ruy</td><td>  Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy</td><td>  Ruy   Ruy</td><td>  Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy</td><td>  Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy</td><td>  Name</td><td>  NETHONIS   THE   NETHONIS   NET</td><td>  New   Ray   Ray</td></td> | RHY         RWY         RWY <td>RHY RWY RWY RWY RWY RWY RWY RWY RWY RWY RW</td> <td>RWY RWY RWY AVG. DE- DIFF- RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY</td> <td>RWY RWY RWY RWY AVG. DE- DIFF. RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY</td> <td>  NEPARTURES</td> <td>  NEPARTURES   TIME</td> <td>  NEW   RAY   RAY</td> <td>  RMY   RWY   RWY</td> <td>  Ruy   Ruy</td> <td>  Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy</td> <td>  Ruy   Ruy</td> <td>  Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy</td> <td>  Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy</td> <td>  Name</td> <td>  NETHONIS   THE   NETHONIS   NET</td> <td>  New   Ray   Ray</td> | RHY RWY RWY RWY RWY RWY RWY RWY RWY RWY RW | RWY RWY RWY AVG. DE- DIFF- RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY | RWY RWY RWY RWY AVG. DE- DIFF. RWY RWY RWY RWY RWY RWY RWY RWY RWY RWY | NEPARTURES | NEPARTURES   TIME | NEW   RAY   RMY   RWY   Ruy | Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy | Ruy   Ruy | Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy | Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy Ruy | Name | NETHONIS   THE   NETHONIS   NET | New   Ray   
